CU AMIGA

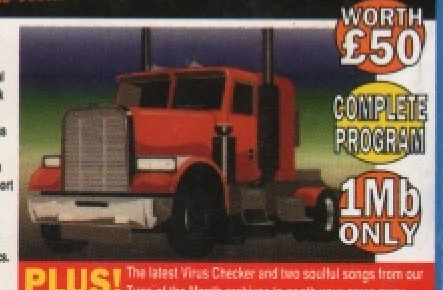
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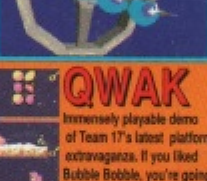
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Legends of Valour

Volume 1 - The Dawning

Original SCRABBLE

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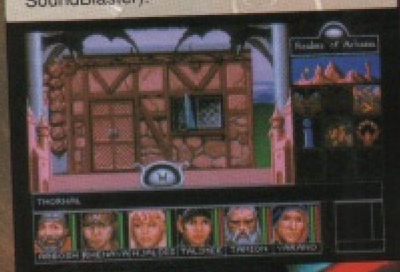
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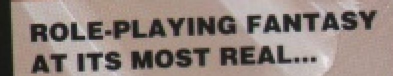
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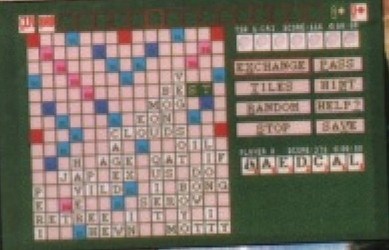
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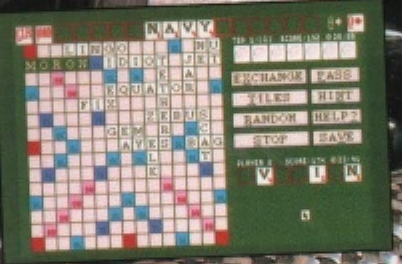
Computer Scrabble - for those who enjoy a night on the tiles.

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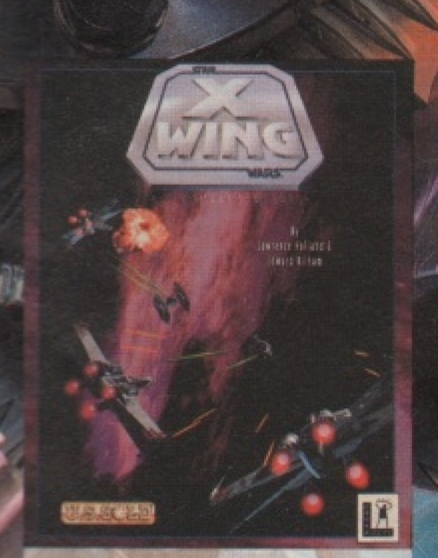
(EGA, VGA, minimum memory required 640k. Supports AdLib™ and SoundBlaster).







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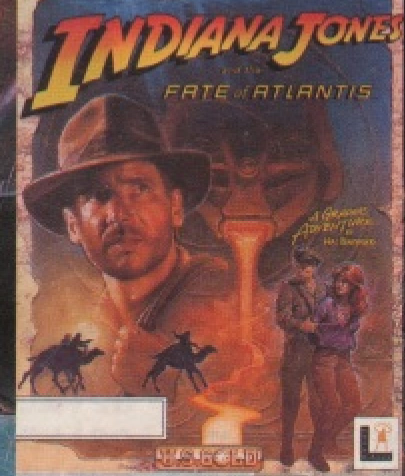


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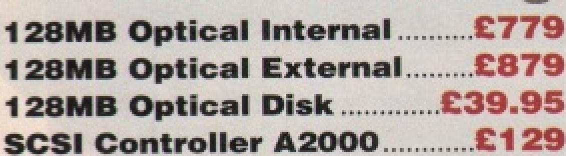
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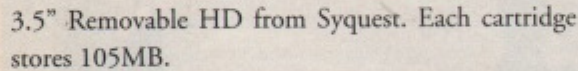
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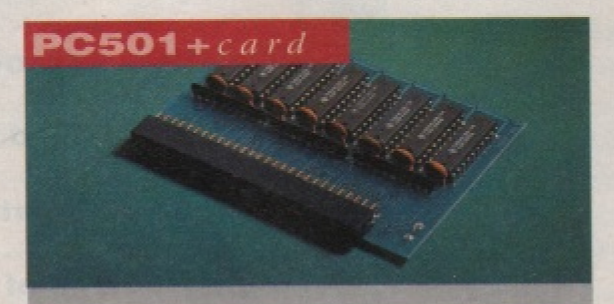
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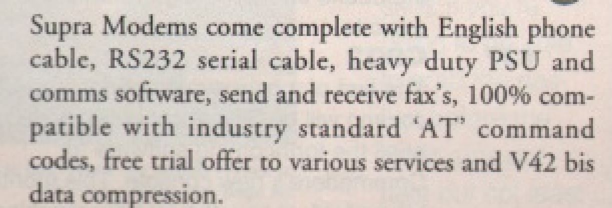
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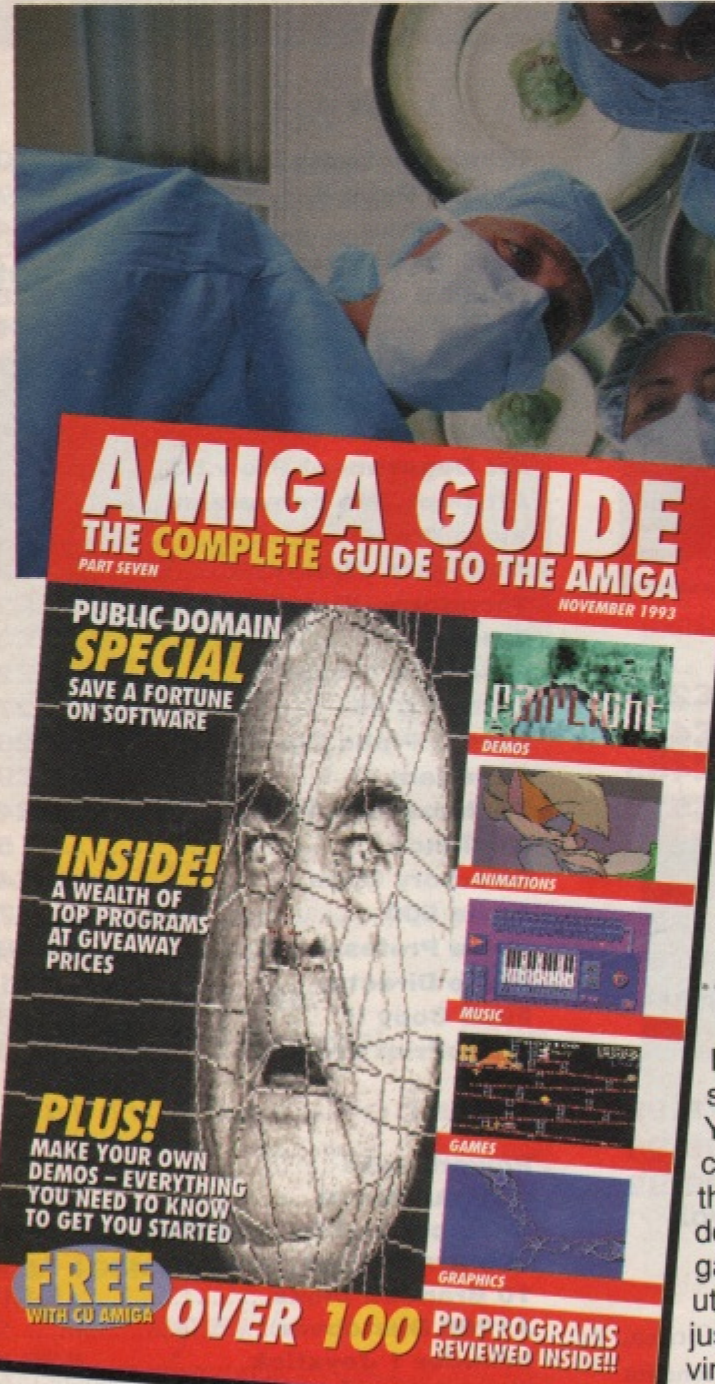
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CONTENTS



REGULARS

OFF THE CUFF

EDITORIAL



Dan Slingsby – Editor

RANT MODE ON: We live in a democratic society, or at least that's the theory. In practice, things aren't so black and white, and successive governments have whittled away at our civil rights and political freedoms. And you know what? The buggers are at it again! John Major and his cronies are considering imposing VAT on magazines, books and newspapers in the autumn budget. Despite past promises to retain a zero rating on printed matter, it looks likely that they'll go ahead anyway and impose what is, in effect, a 'tax on knowledge'. Now, obviously, I've got a vested interest in fighting this idea all the way to Budget Day on November 30th, but so have you! If this proposal gets the go ahead, CU Amiga will either be forced to raise its cover price or drop one of its coverdisks. I hope we don't have to take such drastic action, but we work to such tight margins already that we couldn't afford to absorb all of the VAT increase ourselves. So what can you do about this indirect tax on your hobby? Quite a bit actually. There's already a massive campaign underway to make the Government change its mind, so why not pick up a pen and tell your local MP exactly what you think – in the nicest possible way, of course!
RANT MODE OFF.
Phew. I get a bit carried away at times, don't I?! Never mind, as you can all settle back now and enjoy the latest issue which weighs in at a whopping 212 pages. Not bad, eh? And inside you'll find an exclusive review of *Frontier – Elite 2*, one of the most eagerly awaited Amiga sequels of all time! Also on offer is a completely huge Maintenance feature which will hopefully point you in the right direction of what to do when your Amiga goes on the blink, and watch out for our newest staff member, Vampyra, who hosts this month's Adventure Helpline. See you next time...

NEXT ISSUE ON SALE 19TH NOVEMBER

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ABC 111, 408 Jan-June 1993

GET SERIOUS

PRODUCTIVITY REVIEWS PRODUCTIVITY REVIEW

The long-awaited Rainbow 24-bit graphics board is finally with us, and it's looking good. Also under the microscope this month is Siren Software's new A1200 RAM upgrade, the latest version of *PC Task*, a new version of *OctaMed* and *Origins*, a geneology program.



Somewhere over the Rainbow – yes, it's another graphics board! See page 102.



Oxxi Aegis are back with an easy-to-use video titling effects package. Page 113.

SCREEN SCENE

GAME REVIEWS GAME REVIEWS GAME REVIEWS

In an inter-galactic exclusive, we've got the first review of *Frontier – Elite II*, and it's absolutely amazing! You just won't believe your eyes! Once you've come down from the excitement of that, there's even more in the way of *Turrican 3, Uridium 2, Micro Machines, Overdrive* our newly 'revamped' Adventure Helpline.



It's here at last! Read our scoop review of *Frontier – Elite 2* on page 58.



Sequel mania reigns supreme with the third installment of *Turrican*. Turn to page 84 for a full review.

COVERDISKS

Don't believe the hype of other magazines! This is the only place to look for the very best in free commercial-quality software. This month we've bought up the right to *ExpertDraw*, an excellent and easy-to-use graphics/DTP package that's also a structured drawing tool.

DISK 68 **PAGE 28**

We've pulled out all the stops to bring you a completely stunning graphics/DTP package that's second to none! *ExpertDraw* is a superb structured drawing tool that you can use to create complex images for use with your favourite desk top publishing program. It lets you import rescalable images in a variety of formats including *Aegis Draw* and *Pro Draw* Clips. Alternatively you can use the built in Trace program to convert standard bit-mapped IFF pictures into structured ones which can easily be rescaled with absolutely no drop in quality. With its flexible printer support you can output razor sharp images even on the humblest of nine-pin printers, and with a 300-600 DPI device the program's output is good enough to use commercially!



DISK 69 **PAGE 32**

What a superb games disk we have for you this month. Not one, not two, but three whole demos for you to take a butchers at. First up there's *Frontier*, the stunning sequel to *Elite*, rated 97% this issue. No other game has ever scored so highly and we've got the exclusive demo for you. Due to memory constraints it's only a rolling demo but that shouldn't stop you enjoying a trip through the best space game of all time. Next, there's *Magic Boy* – Empire's top cutesy platform game. This playable demo contains the whole of the first level with you taking the part of the clumsy wizard's apprentice in his quest to recapture the escaped monsters. You'll need all your joystick skills if you're going to be able to grab the nasties before the timer runs out. Last but not least we've a playable demo of Team 17's new budget release *Qwak*, a *Bubble Bobble* tribute that's plenty of fun.



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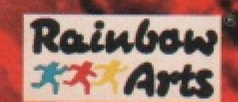
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CU NEWS



CD32 IS THE BELLE OF THE BALL AT LIVE '93



Britain's biggest-ever consumer electronics show, Live '93, was staged at London's Olympia on the 16-20th September. The event lasted for five days and was so popular that many people were turned away.

Hundreds of exhibitors ensured that the show was a huge success, and none put on a more impressive showing than Commodore who were plugging the CD32 for all it was worth.

Their stand occupied more space than any other and was immediately visible from anywhere in the vast arena. The stand was a mixture of display screens, banners, CD32 stands and various other bits and bobs. There were at least two dozen CD32 consoles on display, some running impressive-looking demos of upcoming titles, whilst others were running games that people could play. At the centre of the stand was an Alienesque robotic model and Commodore were offering CD32s to people who could come up with a name for the metallic wonder.

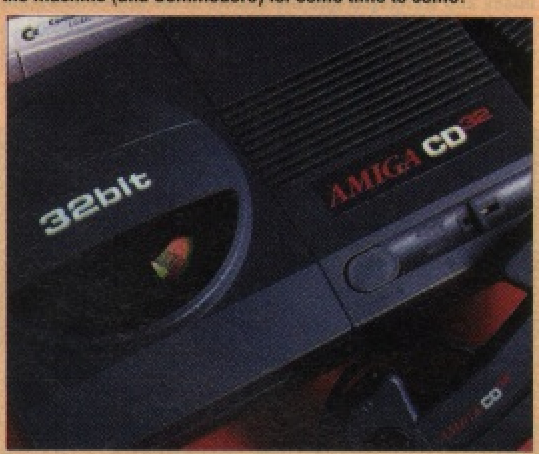
Tucked away at the back of the stand was a row of A4000s demonstrating some of the hottest new gear around. Andy Bishop from Blue Ribbon was doing a very impressive demo of *Bars and Pipes Pro 2*, using a drum pad to play interactively over the top of a music track he'd recorded earlier. Every time he started playing, the crowds just flocked in from nowhere to see what was probably the liveliest demo at the show. Beside him, Barry Thurston was demonstrating Scala MM300, and although his demo was less flashy, business users seemed impressed by the power and simplicity of the program. Next up, was a trio of graphics boards being distributed by SDL. The first two were standard 24-bit cards. The third board, an MPEG card called Peggy, enables an A4000 to replay MPEG standard 1 animation which was receiving its European launch at the show.

The CD32 was also running with an MPEG module plugged in and Commodore's Sanjay Majid was demonstrating the unit which was running a number of pop videos, complete with CD audio tracks.

At one point during the show a number of Apple's staff came over to have a look at the CD32. After taking a cursory glance at the games that were running they declared the console to be 'nothing special'. Then Sanjay showed them the full motion video demo... their jaws just dropped! Judging by other people's reactions at the show the CD32 looks like its going to have a bright future.

CBM ANNOUNCE CD32 CHRISTMAS RELEASES

Over 40 CD32 games will be available by Christmas '93, according to a recent announcement by Commodore in trade weekly, CTW. This is well down on previous estimates by CBM. The claim comes in response to widespread fears that the ground-breaking console may be left high and dry if the promised flood of software fails to appear. To get so many titles on the shelves in time for the festive spending spree is a tall order, but if they pull it off, it could safeguard the future of the machine (and Commodore) for some time to come.



COLOUR PRINTER WARS IN EARNEST

This month saw unprecedented movement in the colour printer market with two new printers being released and Hewlett Packard slashing the prices of their entire range in a pre-Christmas strike at the opposition.

The first of the newcomers comes from Canon in the form of the BJC600, a 360 DPI bubble jet which was previewed at Live '93. At £599, the printer is clearly targeting Hewlett Packard's Deskjet 550C. The BJC600 prints at up to 240 characters per second and has perhaps the most solid colour yet seen on a home colour printer.

In a definite step up for Star, they have produced the SJ144, another 360 DPI printer. This time, it's a thermal transfer wax printer that literally melts wax-based ink onto the paper.

In an effort to divert attention from the new kids on the block, Hewlett Packard have reduced the price of their own excellent Deskjet 550C by £130 to a retail of £539, which will probably translate into a street price of well under £500.

For details phone Hewlett Packard on 0344 369222, Canon on 081 773 3173 and Star on 0494 471111.



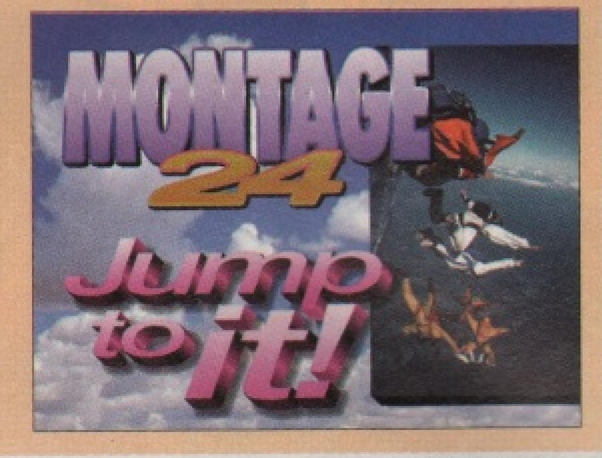
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COMMERCIAL VIDEO TITLING EVEN EASIER

American company Innovision recently announced a brand new video titling package called Montage 24. The program looks like being one of the most sophisticated graphics and video titling programs for the Amiga to date. It produces network calibre anti-aliased 24-bit titles and graphics and incorporates real-time 'click and drag' font scaling. It is supplied with a selection of eight popular scalable typefaces and there are even more fonts if required. It also supports Toaster and Chroma fonts. With an optional Postscript module you can even perform real-time scaling of Postscript type 1 and 3 and Compugraphic fonts.

The program can also create high-quality 24-bit backgrounds with gradient fills, translucency blending, levelled boxes and wallpaper and tile effects at the click of a button.

For more information, contact Innovision on 0101 510 638 0800.





MORTAL MONDAY A RESOUNDING SUCCESS

Monday the 13th of September saw the release of Acclaim's *Mortal Kombat*, and simultaneously ended the most sustained PR onslaught of 1993. The game was released on a variety of formats (the Amiga version is still some time away) and shipped a staggering 2,000,000 units world-wide making it the biggest single games launch in computer history.

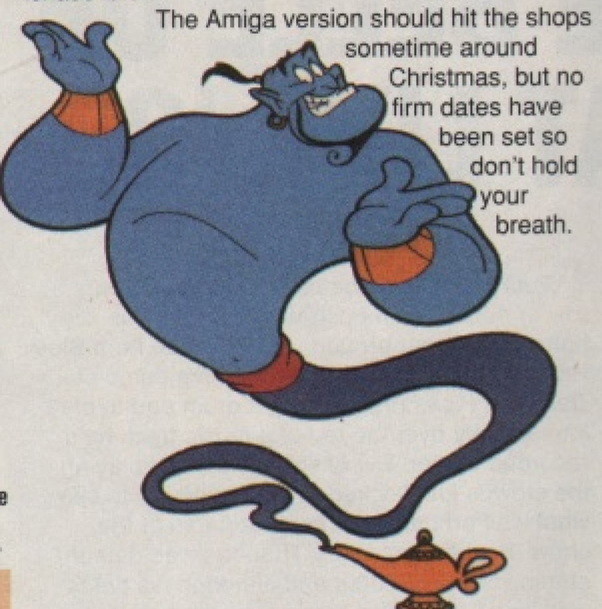
The launch was carefully orchestrated so that stores throughout the world had the title in stock on Thursday with strict instructions not to sell any before Monday. However, a number of stores including Comet, ignored these instructions causing great consternation to Acclaim's marketing staff.

The game has already been the subject of much controversy because of the level of gratuitous violence it contains. With scenes where people's heads are ripped off with spines still attached, and still-beating hearts are plucked from victims' chests, it's easy to understand why such complaints have arisen. Decide for yourself when the Amiga version appears in a couple of months. There will also be an exclusive coverdisk demo on an upcoming issue of CU Amiga.

ALADDIN ON AMIGA

It's rumoured that Virgin have signed up the Amiga rights to Disney's hit movie Aladdin. Although details are scarce it looks likely that the Amiga game will be a direct port of the excellent Mega Drive version with massive multi-directional scrolling levels populated by a host of weird characters. However, to keep you on the right track the path you need to take to complete the level will glow. The game closely follows the film with Aladdin recruited by the evil Jafar to retrieve a magic lamp hidden in a guarded cave. Realising Jafar's evil nature and the dangers of handing the lamp over Aladdin decides to keep it for himself. From then the chase is on.

The Amiga version should hit the shops sometime around Christmas, but no firm dates have been set so don't hold your breath.



VIRTUAL TV MAKES AN APPEARANCE

A company called Virtual Vision has just started demonstrating the very latest in mobile entertainment systems in the form of a headset which allows you to watch TV and go about your normal daily life at the same time.



The headset resembles a pair of over-sized skiing goggles, but contains a miniature TV set occupying the lower portion of the left lense. When the set is active, the screen occupies an equivalent area in the user's field of vision as a 60 inch screen viewed at 6-15 feet away.

The advantage of the system is that by lowering your eyes you can watch TV, raise them and you're back in the real world.

Virtual Vision say that apart from being ideal for use as a stand-alone portable TV, their headset can be used as a portable camcorder monitor, or is perfect for live sports events so you can watch replays whilst everyone else returns to the match!

The unit is likely to cost a mega-hefty £700! You can find out more by contacting Virtual Vision on 071 584 0122.

CHEAP IDE HARD DRIVES

Irish hardware company Media Source have just announced their entry into the hard drive market with some of the cheapest IDE drives available. The drives all use ultra-reliable Connor mechanisms and are guaranteed for a year.

A 120Mb A600/A1200 compatible unit will cost £279.99, whilst a 250Mb A4000 unit comes in ten pounds less at £269.99.

For further details contact Mediasource, PO Box 4, Bangor, Co. Down, BT19 6UP. Tel: 0247 471882 or Fax: 0247 462 446.

STOP PRESS... TWO FOR THE PRICE OF ONE!

To celebrate the season of goodwill, CU Amiga will be giving away not one, but two superb full price programs with the December issue. First of all there's the incredible art package *Spectracolour*, which lets you paint and animate in up to 4096 colours. With features not even included in *D-Paint IV*, *Spectracolour* is just the thing for bringing your fertile imaginings to life!

What better way to compliment a paint package than with an animation package and that's why we've spared no expense in securing the Amiga's foremost polygon animation and morphing package *Aegis Animator*. From internationally renowned Oxxi Aegis, the package will automatically create 'in-between' frames from your key animation images. This feature is infinitely more powerful than *D-Paint IV*'s animation or morphing options and can be used to create subtle animations and transformations only rivalled by those of professional animators.

The December issue hits the shelves on November the 19th. Get it or regret it!!!

NEW CD RIVAL FOR CD32

The CD wars are hotting up as Commodore's arch rivals Philips re-enter the arena with their CDI210 CD-i player. The player is priced at £399 and draws upon the technology of their original player. It includes a new technology for the replay of Digital Video, however as the CDI210 appears to use its own proprietary replay format, it's doubtful whether this will have the same impact as Commodore's MPEG FMV module. The one thing that the CDI210 does have in its favour is the support of a number of big name games developers who are converting some of their most spectacular titles to run on the machine. Nevertheless, CD32 remains the world's most advanced consumer CD console.



AMIGA WINS AN EMMY

As the market for science fiction shows on television grows, largely due to the success of Star Trek, a new rival for Paramount's Deep Space 9 (Star Trek 3) series has just won an Emmy for best special effects. Babylon 5 is based on an orbital space station, and uses 3D Video Toaster graphics rendered on the awesome *Lightwave 3D* engine. Virtually all of the exteriors as well as most middle distance scenery is created with the system. This is in sharp contrast to Deep Space 9 where the more traditional techniques involving scale models and rostrum cameras is employed. By using computers, the effects crew on Babylon 5 are able to create far more spectacular effects with less effort. The effects were done by a company called Foundation Imaging, and prospective film makers can contact them on 0101 805 257 0292.



2 FOR 1 PRINTER REFILLS

System Insight have been offering refill ink for ink- and bubble-jet printers for years, but they have just launched a new range of refill products. The new refills include better ink formulation, which dries faster, gives more vibrant colours and amazingly even conforms to British Standard 5750 for ink quality! They've also developed an easier refilling method which is ideal for most bubble jet printers including all of those made by Star, Canon and Hewlett Packard. To celebrate their new products, Inkmun are offering all refills on a buy one, get one free basis. Remember, using refill kits not only costs a fraction of the price of new cartridges, it's environmentally friendlier too! Contact System Insight on 0707 395500.

SIERRA ON A BUDGET



After pulling out of the Amiga market, then coming back in, Sierra have now announced that their whole back catalogue will be available courtesy of U.S. Gold. This follows the recent move to sign Revolution up as developers of the Amiga version of King's Quest VI. So, you'll soon be able to play all those old favourites like Leisure Suit Larry and the Police Quest series. What's more U.S. Gold are releasing this range at a budget price on their Kixx XL label. For more info ring US Gold on 021 625 3366.

FIRST USER-DEFINABLE WORD PROCESSOR!

Softwood Products Europe have announced the release of an exciting new word processor called *Final Writer*. The program is very much in the same mould as *Final Copy 2* with its scalable font and graphics support, however *Final Writer* is aimed at higher powered users who demand that bit more from their word processors. For starters, it supports Postscript fonts, and is supplied with 110 of them! It also supports EPSF (Encapsulated Postscript Format) graphics, and 100 of those are also included. There are also bundles of professional features at a reasonable price. Features such as auto indexing, table of illustrations generation, a full proximity dictionary, the ability to rescale, rotate or oblique text to any degree full 24-bit image support. However, what really makes the program extra-special is its user-definable button bar. This is a bar of button icons that runs across the top of the screen and which can be scrolled to provide access to more buttons if required. Each button has a specific function and you can decide what that function should be by either choosing from a list of predefined functions or creating your own using the program's AREXX or button languages. Upgrades will be available for all existing Softwood customers. *Final Writer* will retail for £129.99 and you can find out more by phoning Softwood Products Europe on 0773 836781.

A1200 CHRISTMAS BUNDLE

Commodore have recently announced what is probably their strongest-ever computer bundle ready for the Christmas rush. The pack is called Desktop Dynamite and comes with a variety of productivity and entertainment titles. The inclusion of *Wordworth 2 AGA* must be seen as a major coup by Commodore, as this program alone is still retailing for just under £130. *D-Paint 4 AGA* and *Digita Print Manager* are also included. On the entertainment side, Ocean's *Dennis* (based on the film of the same name) and Flair's *Oscar* complete the round up. The pack will have an RRP of £349.99, although expect to see certain electrical retailers discounting to nearer the £300 mark.

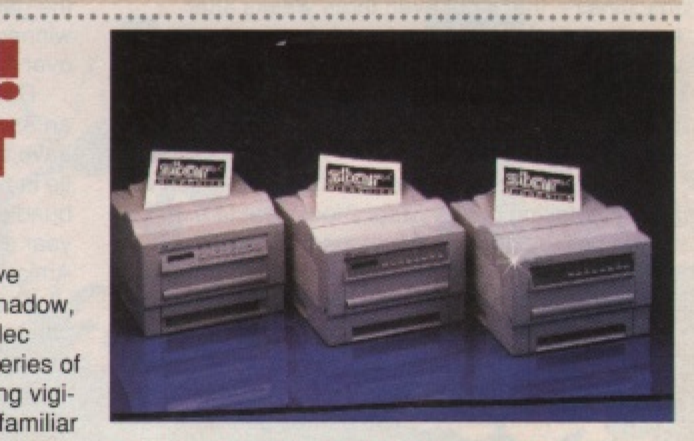


STOP PRESS! OCEAN CAST A SHADOW

News has just come in that Ocean have grabbed the game license for The Shadow, a soon to be released film starring Alec Baldwin. Apparently it's based on a Fifties series of the same name featuring a dark and brooding vigilante with a penchant for the night. Sounds familiar – give him a pointy eared costume and you'd have Batman. Let's hope that this license turns out better than the Bat's outing onto disk. There are no details available at the time of going to press. As The Shadow himself might have said 'Who knows what gameplay lurks in Ocean's heart.' We'll keep you posted.

WE NEED YOU!

CU Amiga welcomes any hot news or show details that you may have. Send them to NEWS, CU Amiga, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU. Alternatively you could fax information to us on 071 972 6701. If it's really important, you could phone us on any Friday to let us know what's up.



LASER MARKET GETS CHEAPER

Citizen and Star are both making moves to make laser printers more affordable for home users. Star have just decreased the price of a number of machines in the LS5 range. The LS-5 drops to £609, the LS-5 EX becomes £699, whilst the flagship of the line, the LS-5 TT drops to £999. Far more aggressive is Citizen's first ever foray into the laser market in the form of the ProLaser 6000. The ProLaser prints at a resolution of 600 dots per inch and at a nippy six pages per minute, yet only costs £559 from Citizen Direct. Contact Star on 0494 471111. Citizen are on 0753 584111.

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» COMMODORE WRITES

Our special hotline to the boss of Commodore UK has been buzzing again. David Pleasance talks openly about the trials and tribulations of the boardroom.

It won't come across in print but, believe me, I'm exhausted. In fact, that goes for all of us at Commodore. The reason? We've just completed a wildly successful five days at Live '93.

Of course Live '93 was the UK's first consumer electronics show. The US set the precedent with the CES which has become something of a highlight for the industry. With hindsight it makes you wonder why it took the UK so long to set up an equivalent.

But it was worth the wait. Live '93 was an unqualified hit. At Olympia it was 'standing room only', if you see what I mean, with over 140,000 paying visitors over five days. On the Sunday there were 46,000 and they closed Olympia's doors for the first time ever.

And I'm proud to report that our stand was a major attraction. Obviously Amiga CD32 was the reason why. Having watched the machine go from an idea to reality in less than a year, and then observing the huge press interest, it was really satisfying for me personally to gauge the public's reaction. Which was, needless to say, tremendous. We've already booked for Live '94. See you there.

Another really pleasing aspect of the show was that we had 40 machines running all day every day and not a problem with any of them. The relatively small number of returns on AGA machines has been one reason we've been able to maintain such competitive prices. Long may it continue.

On the subject, we're now using ICL as our warranty agent. I've seen their set-up and I can assure you it's hi-tech and very impressive.

So, maybe the CD revolution has truly begun now. Sales certainly point to it. At the time of writing we've sold out of our first shipment of 25,000 machines – that's not even three weeks after launch. And there are thousands more pre-orders waiting to go. Get yours in now!

Software is starting to come through as planned. The excellent pre-Christmas line-up includes some beauties.

Ocean's *TFX* is a wondrous flight sim which will be breathtaking on CD, *Zool 2* looks set to expand on the brilliant original, *Microcosm* will realise everybody's highest hopes of what CD technology can deliver and then there's discs like Lotus Turbo Trilogy – three classic games on one disc at a sensible price, another obvious benefit introduced by the new medium.

The games publishers are right behind the machine. In fact, just to ram the message home,



we'll be running an ad in the industry paper CTW which lists all of its supporters. This advertising kicks off a massive £7 million campaign which will run from mid-October.

It's our biggest ever campaign – more proof of how serious we are about establishing Amiga CD32 as the world's best-selling console. The TV ad will be special effects laden and will feature a fearsome alien. As fearsome as the machine? You'll just have to wait.

It would be easy to forget the Amiga 1200 in the midst of so much Amiga CD32 activity. But we're not going to do that. In fact the Amiga 1200 is racing ahead, above all the targets we set for it. Sales have been excellent since day one but since we introduced the £299.99 price tag in July they've gone through the roof.

In the summer 'quarter' we sold 46,000 machines. Fantastic figures which ever way you look at them, but in the industry's quietest season nothing less than remarkable. I'm really pleased – and so's my boss! We set an agenda when we launched the Amiga 1200 which was that the machine would usher in an era of 32-bit computing. We've achieved it. Less than a year later the 1200 is a market leader. Total sales are over 150,000.. And it's great to see so much of the floppy Amiga software being released is AGA.

The software packaged with this year's Christmas bundle Desktop Dynamite is a case in point. We're delighted with it and the pundits have been full of praise as well. We've put the emphasis on productivity by including *Digita Print Manager*, *Digita Wordworth* and, of course, *Deluxe Paint IV* (we'd be slaughtered if that didn't go in). With *Oscar* and *Dennis* as the games element I think we've come up with a winner. In cash terms there's no argument – that's over £300 of software.

Desktop Dynamite will be the only way to buy an Amiga 1200 this Christmas. I think we may have made the mistake of confusing the users a little in the past with too many choices (different bundles, standalones, hard drives, etc.) so this year our range will be limited to Desktop Dynamite, Amiga CD32 and the two Amiga 4000s.

This suits the retailers too. And in the end if we can help them then that means wider availability for you the customer.

As I write a team of specially trained Commodore merchandise reps will begin visiting these stores. They will make 6,000 calls in the 12 weeks to Christmas. They'll distribute p-o-s and help with the positioning and appearance of display machines to 2,500 retail outlets including Comet, Rumbelows, Tandy, Future Zone, SWEB shops, Beatties, John Lewis Partnership, Allders, NASCR retailers and computer independents.

If we can keep them all happy then you won't need to walk too far to buy an Amiga!

REGULAR WRITES

Commodore Writes is CU Amiga's exclusive column written by David Pleasance, MD of Commodore UK. Every month he'll be passing on hot news direct from the horse's mouth as it were. He'll also endeavour to address issues that are foremost in our readers' minds. So if you want the answer to a question that matters, send your letters to: Commodore Writes, CU Amiga, 30-32 Farringdon Lane, London, EC1R 3AU. Remember David cannot answer individual questions.

CYBERSPACE GETS REAL

After months of waiting Empire's *Cyberspace* is finally nearing release. We covered the game in some depth in our April issue but there's been a little slippage since then on the Amiga version with the coders concentrating on its PC brother. It promises to be one of the most amazing role playing games yet seen with over one million characters to interact with, each with their own individual faces. The plot too is complex allowing you to wander off and do your own thing. In the past if you strayed off the plot path in an RPG you'd soon find there was little to do. Not so here. *Cyberspace* is set for a pre-Christmas release so we'll bring you a review soon.

THE KID IS BACK!



Every Good Boy Deserves Football, as my old trumpet teacher used to say, and that's not all if the rampaging sales of Krisalis' *Soccer Kid* is anything to go by. Not content with chucking it out on every format they can think of, the Rotherham lads have just had a brainstorming session so intense you could hear the thunder right around the world! Please make way for...*Basketball Kid*! Details are sketchy at the moment, but it looks like it'll be more of the same, with some enhanced game features and, of course, a whole host of new moves and tricks. Interestingly enough Domark, who are putting the finishing touches to their own soccer style platform game, are also rumoured to be doing a basketball romp



XMAS DISCOUNTS ON XCAD

New purchasers of what is probably the world's best off-the-shelf CAD (Computer Aided Design) package, *XCAD*, are in for a treat thanks to massive discounts as part of Digital Multimedia's Christmas promotion. *XCAD 2000* falls by £50 from £129.99 to £79.99, whilst the up-market *XCAD 3000* version drops by £80 to £249. Existing *XCAD 2000* and *XCAD 3D* owners can upgrade to *XCAD 3000* for only £125, and this means that you can save a further £50 by buying *XCAD 2000* and immediately upgrading to the 3000 version! Contact Digital Multimedia for further details on 081 977 1105.

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This ain't no Turkey!


Free that balloon! Watch that snail!


Mr Pekles - Master of flower technology


There's a 'Fry-Up' waiting in Wood World!

WATER

ALSO AVAILABLE

MINDSCAPE A1200 ENHANCED

Available for:			
	Amiga (A1200 Compatible)	September '93	£25.99
	Amiga (A1200 Enhanced Version)	October '93	£25.99
	Amiga CD32	October '93	£25.99
	Gameboy	OUT NOW!	£25.99
	NES	November '93	£24.99
	SNES	December '93	£49.99

Oh no! The evil Meka-Chickens have eggnapped Billy Egg and his brothers for their terrible cloning experiment! And they've taken Floella too!!

This is no yolk. As the worlds only chicken with a bionic beak, Alfred is whisked off to a multitude of bizarre lands to pluck his friends from the clutches of their foul captors.

Scramble through 11 transdimensional levels facing the likes of Byron Snail, Mag-Mine, Grim Blocker and the Terrasawus. Beat the Meka-Chickens, snatch back the eggs, and lay their plans for world domination to rest!

FOR FURTHER INFORMATION ON ALFRED CHICKEN PLEASE RETURN THIS COUPON TO: FREEPOST PRODUCT INFORMATION, PRIORITY HOUSE, CHARLES AVENUE, MALTINGS PARK, BURGESS HILL, WEST SUSSEX RH15 9BR.

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CUA 11

Twilight



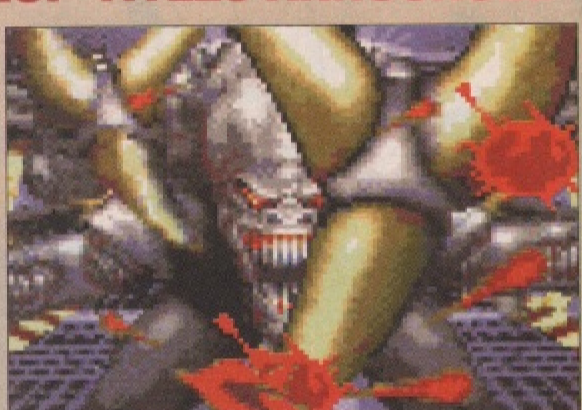
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NOW THAT'S WHAT I CALL CD GAMES

It was only a matter of time before the first games collection appeared on the CD32. *Now That's What I Call Games Volume 1* contains 100 of the best PD games around, featuring such favourites as *Egyptian Run*, *Bombjacky* and *Skyflyer*, along with some new renditions of popular games such as Chess, Cluedo and *Pacman*. Perhaps the best thing about the package is its price – a mere £19.99! For more information, contact the Multi Media Machine Limited at Commerce House, Bridgeman Place, Bolton BL2 1DW. Tel: 0204 363688.

MORE GAMES WORKSHOP TITLES ANNOUNCED

After the recent success of *Space Hulk*, Electronic Arts have been quick to sign a deal for another Games Workshop license. Details are sketchy at the moment but the game has been provisionally titled *Cult of Speed*. This name represents a sub-grouping of Orcs in the Warhammer Universe who are obsessed with anything on wheels. These creatures are a mix of boy racer and biker who love to race their customised machines. So, it's a pretty safe guess that the game will involve some kind of race and biff scenario.



LEARN SPANISH ON YOUR AMIGA

Thanks to the new Single European Market, there's never been a better time to learn a foreign language. Now you can add Spanish to your repertoire thanks to LCL's *Micro Spanish*. The program includes a combination of animated and static graphics as well as sampled speech and an accompanying work/tutorial book. LCL describe *Micro Spanish* as a 'Complete course of spoken and written Spanish suitable for holidaymakers, students, enthusiasts and businessmen'. It even includes a utility for generating business letters in Spanish. The program will cost £24.99 and should be available by Christmas. Phone LCL on 0491 579345.



AMIGA CD ROM TOOLKIT AVAILABLE

A new program being distributed by Micropace means that you can get even more out of your CDROM player, CDTV or CD32 than ever before. The program is called *Asim CDFS V2.0* and it includes a utility to let you export pictures from Kodak's PhotoCDs, saving them as 24-bit IFF images. It also includes Asim Tunes, which can be used to control and catalogue your music CDs. The program also comes with Fish disks 101-900. The program costs £49.99 and you can buy it from Micropace UK, Ltd. Tel: 0753 551888.

GAMES WORKSHOP COPYRIGHT

The images of the Space Hulk miniatures used in last month's *Space Hulk* review are the copyright of Games Workshop. We acknowledge their ownership of such and apologise for not attributing their rights then. Sorry guys.

BROADCAST QUALITY STANDARDS CONVERTOR

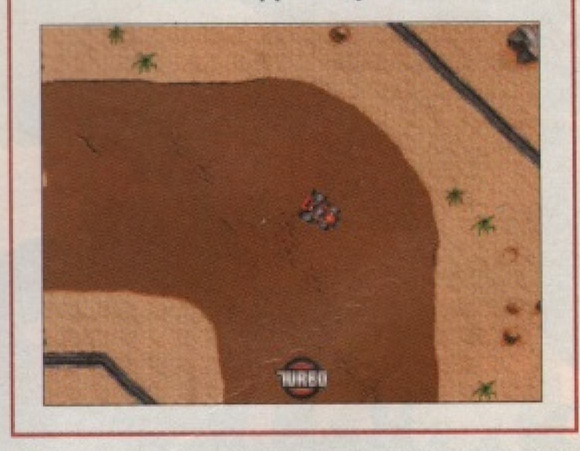
Following our news story last month about the Video Toaster being used for non-NTSC video work, an American company called Prime Image contacted us to let our readers know about their board. The board is called the Model Std Con/PCB, and it's a desk-top plug-in digital standards convertor for any machines which include an AT bus (the 2000 upwards). It can convert any input signal to any output standard including NTSC, PAL (and its numerous derivatives) and SECAM. The board includes a built-in time-base corrector and retails for $1700. This means that it is possible to set up a commercial TV production facility including a Toaster for well under £3000! Contact Prime Image at 19943 Via Escuela, Saratoga, California 95070, USA. Alternatively you can phone them on 0101 408 867 519 or FAX them on 0101 408 926 7294.

AMIGA TOP TEN

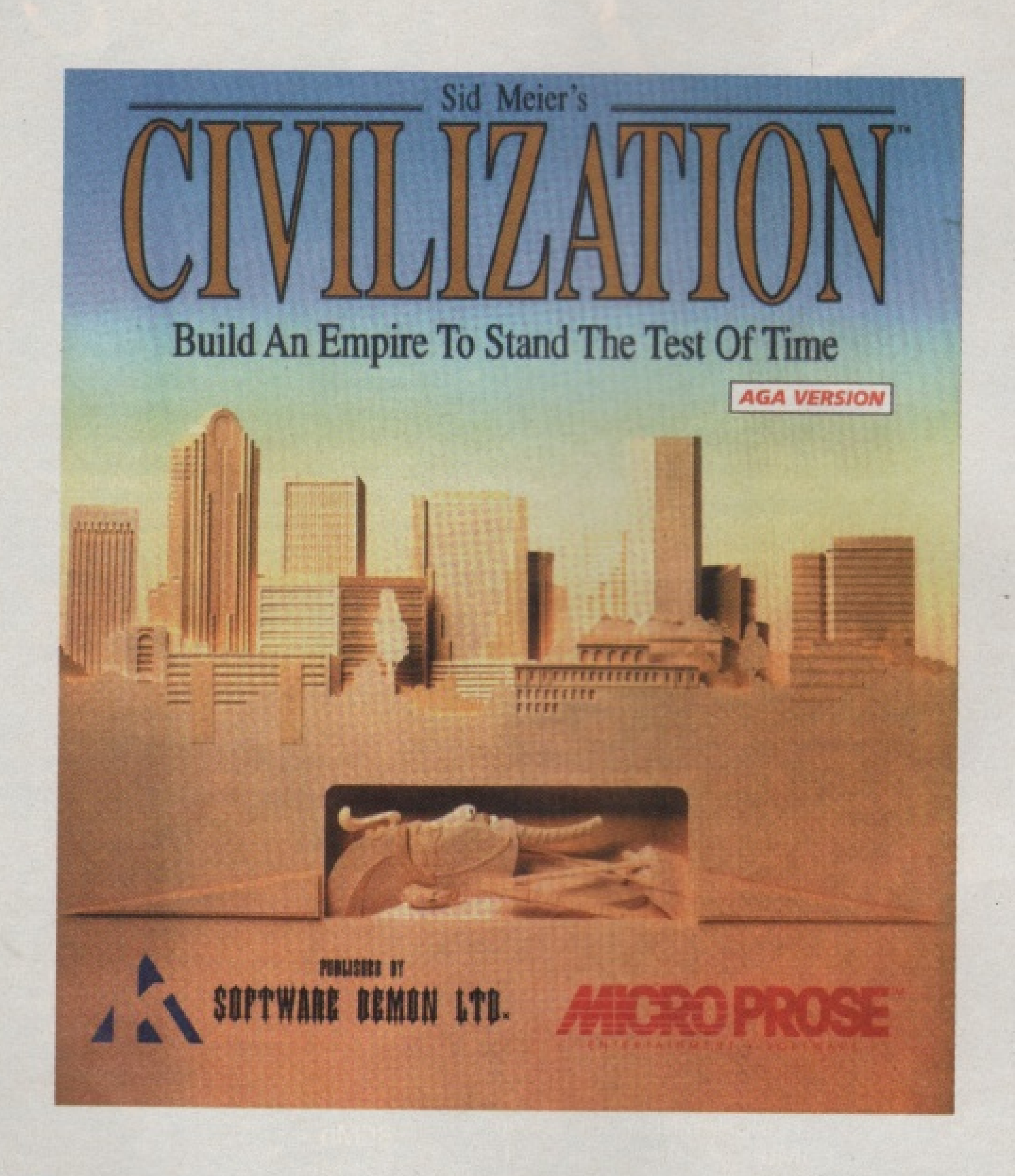
It looks like Team 17 are becoming the software equivalent of the Beatles with two games in the current top ten chart and many more waiting in the wings. The Wakefield-based softcos has really begun to dominate the budget market with a series of original releases and they've also got an impressive line-up of full price games due for release in the run up to Christmas. Straight into the top spot goes their top-down racer, *Overdrive*, and zooming up to third place is *F17 Challenge*.

1. Overdrive (Team 17)
2. Syndicate (Electronic Arts)
3. F17 Challenge (Team 17)
4. Soccer Kid (Krisalis)
5. Goal! (Virgin)
6. Championship Manager '93 (Domark)
7. Flashback (U.S. Gold)
8. Humans 2 (Gametek)
9. One Step Beyond (Ocean)
10. Gunship 2000 (Microprose)

Charts supplied by HMV.



Exactly how many awards will it take before you own a copy of Sid Meier's Civilization?



Winner!
Best Consumer Product 1991

Winner!
Best Entertainment Program 1991

Winner!
Best Strategy Program 1991

Winner!
Most Original Game 1992

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The flagship of the Commodore Amiga range. Based around the 68040 processor. Comes with Hard Drive, 2+4 RAM and WB3.

85Mb version	£1899
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170Mb version	£1939
250Mb version	£1979
340Mb version	£2069
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426Mb version	£1199

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MONITORS FOR CD32
Why tie-up your TV this Christmas? Buy a composite input monitor for sharper gameplay and graphics.

1084S MONITOR PHONE FOR LATEST PRICES AND AVAILABILITY

AMIGA A1200
DESKTOP DYNAMITE PACK

The A1200 sports many features of the A4000 series. Based around a 68020 processor, 2Mb of RAM and WB3 as standard. A full range of hard drives are also available. The desktop dynamite pack is supplied with a range of software written specifically for the AA chipset, including DPaint AGA and Wordworth AGA plus others with a total RRP of over £300

Basic	£289
20Mb HD version	£369
40Mb HD version	£388
60Mb HD version	£445
85Mb HD version	£468
127Mb HD version	£494
170Mb HD version	£528
220Mb HD version	£548
256Mb HD version	£578

IDE HARD DRIVE KITS
These drives can be fitted to the A1200 at any time by us or the end user. The kit comes complete with all software necessary to configure the drive.

40Mb	£139
85Mb	£179
120Mb	£279
209Mb	£399

A1200 HARD DRIVES
These hard drives can be added to your existing system and are installed by our technicians to ensure the best fit. They come with a 1 year return to base warranty on the drive and the computer.

40Mb	£99
85Mb	£179
120Mb	£239
170Mb	£269
250Mb	£329
330Mb	£399
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All hard drives fitted after time of purchase must add £29 fitting fee

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CD ROM DRIVE
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Welcome to the future of home entertainment.

CD ROM DRIVE £39

PLEASE ADD £29 FOR 2 CDPD FRED FISH DISCS(OVER 1000Mb

MATHS CO-PRO (PLCC)

25MHz 68882	£89
40MHz 68882	£129

MEMORY
single sided SIMMS module for A40

1Mb RAM	£39
4Mb RAM	£169

ACCELERATORS
Our accelerators are produced for the A1200 by GVP, a watch word in qual and reliability. Both boards are user fittable via the trapdoor so as to maintain your warranty.

GVP SCSI/RAM BOAR
This board has slots for up to 8Mb of RAM, a maths co-pro and has and includes an SCSI interface as standa

0Mb/NO FPU	£179
4MB/33MHz FPU	£349
SCSI CABLE KIT	£44

GVP A1230 BOARD
This board features a 68030 process as standard and also has slots for up 8Mb of RAM and maths co-pro.

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4Mb/40MHZ FPU	£439

GVP ACCESSORIES

33MHz 68882 FPU	£79
40MHz 68882 FPU	£129
32bit 1Mb RAM	£64
32bit 4Mb RAM	£153



THE OVERDRIVE EXTERNAL HD



THE OVERDRIVE 35

These external hard drives come in an ABS box styled to match the Amiga A1200. They plug in via the PCMCIA slot and include an external PSU so as not to invalidate your Commodore warranty. Ultra fast data transfer rate of 2Mb/sec. Full 1 year return-to-base guarantee. They come supplied with all the necessary software to mount and configure the drive.

40Mb	£189
85Mb	£249
170Mb	£319
220Mb	£339
250Mb	£369
340Mb	£419
426Mb	£519

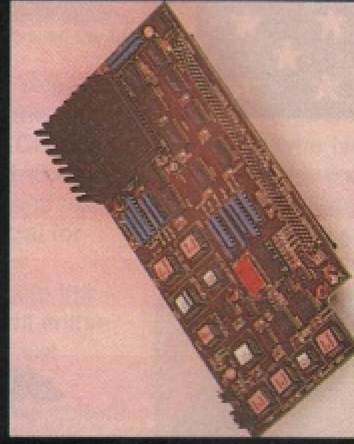
THE OVERDRIVE 25

The compact version of the OVERDRIVE 3. This model is design to be transported, it's size has been reduced, the internal hardware has been upgraded to deal with the problems created by moving hard drives around and the power is now drawn internally. So, hey just put it in your pocket and away you go.

TYPICAL TRANSFER RATE:-1.2Mb/sec

20Mb	£99
40Mb	£169
60Mb	£199
80Mb	£249

TURBO CHARGE YOUR A4000/030



PHOTON UPGRADE

Finding that your A4000/030 isn't quite man enough for your present projects? Never fear Software Demon is here.
We are now able to offer an upgrade service, saving all the hassle of selling your old Amiga. So, to upgrade just send in your main CPU module and front panel and we will part-exchange it for a genuine Commodore 040 CPU module; which includes an MMU and built in FPU and a new A4000/040 front panel.

PHOTON UPGRADE
£799

HELLFIRE UPGRADE

AVAILABLE SOON

Our latest development has produced a stunning new way to improve the performance of your A4000/030 at an incredibly low price. It comes in the form of a replacement CPU module which slots in where your present module sits. It's features include a 50MHz standard clock speed; an MMU as standard and a built in 50MHz FPU. To upgrade will require you sending us your original CPU module which we will then part exchange for our new A4000/030 accelerator.

PRICE?
PLEASE PHONE FOR DETAILS
PROJECTED RRP £299

LEISURE & ENTERTAINMENT

CIVILIZATION AGA

This is it, the bees knees. It's the ultimate god game. This game is Microprose's flagship, it's won a host of awards and now it's been upgraded to make the most of the new AGA chipset. If you don't already own a copy of Civilization then you don't know what your missing, and if you have an original copy then you'll be stunned by the improvements. So either buy it now or upgrade and get into the most serious game of all time.

CIVILIZATION AGA	£39
UPGRADE	£19

To upgrade just send the 4 original disks including £19 and your name and address.

CD32 CONSOLE

This machine represent the future of home entertainment and video game play. A self contained CD console which you can expand to a full CD based home computer. It is built around true 32bit technology with 256 screen colours, 68020 processor with a 14MHz clock speed and high resolution screen display. Read the reviews and hear what the experts have got to say about Commodores new baby. I think you'll agree it's time to kiss Sonic Goodbye and wish Mario a fond farewell because the future is here. Optional extras include a keyboard, floppy drive, mouse and a hard drive. All of which will be available soon.
CD32 is supplied with 2 great software titles written for the AGA chipset and designed to display the full range of CD32's assets.

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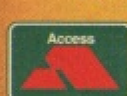
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WORLD OF Commodore Amiga

Every year, the World of Commodore Amiga Show in Pasadena attracts thousands of Amiga devotees from all over the globe. This year, the show was especially packed as hundreds of new products were unveiled for the first time. Don Hicks, our US correspondent, fought his way through the crowds to bring you this exclusive report.



SPECIAL REPORT FROM PASADENA



The world's premier Amiga show acted as a launch pad for hundreds of exciting new products.

The word for the World of Commodore Amiga Pasadena (September 3-5) was hot. With temperatures above 38°C in the Los Angeles valley, local residents may have thought the hottest thing going was the weather. But, in the air-conditioned exhibition hall at the Pasadena centre, Amiga developers were announcing an array of hot new products that put some real sizzle into the Amiga market. From CD32 to an Amiga transputer, the developers' announcements redefined Amiga computing.

The free seminars are a major feature at every WOCA. During the three-day event, Commodore and other exhibitors ran a steady assortment of speakers and demonstrations. Each keynote address and special presentation was filled to capacity with many people being turned away. According to one Commodore executive, every seminar had at least 200 people in attendance. Sessions included a presentation of *Brilliance* by famed Amiga artist Jim Sachs, Full Motion Video presentations by Commodore's Jeff Porter, as well as product demonstrations of Centaur's OpalVision, RGB's AmiLink CIP, Axiom's *WaveMaker* and *Anim Workshop*, GVP's *ImageFX* by Warner Brothers animation director, GVP's CineMorph, Toaster 4000 and LightWave 3D, as well as Sunrize Industries' Studio 16.

While CD32 was introduced to the UK in late July, Commodore used the Pasadena event to present the Amiga CD32 to the North American market. In a press conference, held the first day, Jim Dionne, CBM U.S.A.'s president, announced, 'We feel confident it (CD32) will become our next 64.' He went on to say that 20,000 CD32 units per week were being produced at Commodore's plant.

Lew Eggebrecht, Vice President of Engineering for Commodore International, announced that there would be 75 CD32 titles available by Christmas. 'One of the most important points is that we were able to get this kind of support without investing a single dime in the software development. That, we think, is a very good endorsement of the capability of the (CD32) product.' Eggebrecht announced further plans for the Amiga CD32 line by stating CBM was planning '...a CD peripheral for the 1200 and also for the 4000 that will allow the software development of CD32 to also play on our standard home computer and video workstation environments.' The A4000 CD32 peripheral could be available as early as December according to an unidentified CBM staff member.

Discussing the future of Amiga support software, Eggebrecht

Jim Dione, Commodore's president and big cheese, was confident of the CD32's success.



Commodore had a big presence at the show and unveiled the CD32 to an expectant U.S. crowd.

went on to say that CBM would soon be 'releasing DOS 3.1 which would support the same software capabilities that were added to CD32. In other words, this will support SCSI capabilities for CDs, also support file systems for CDs, and also support all of the libraries that were special for the game environments.'

Commodore has apparently accepted the fact that they cannot do everything. Eggebrecht enthusiastically stated Commodore's offer to assist third-party developers in creating peripherals needed for A4000 and A1200 machines. He stated CBM was interested in licensing their network developments to third-party developers to create new products.

Apparently, CD32 is already in demand by U.S. Amiga users. A CBM exec was upset that he only had a few CD32 units for the show. Apparently, he had been offered as much as $1,000 for each CD32 on display. However, since the U.S. market has not received their allocation of the newly-released Amiga games machine, the few CD32s on display were all that were available and he could not sell them.

LIGHTWAVE 3D FOR PAL USERS?

Once again WOCA Pasadena was held at the home of the Emmy awards exactly one week before the television equivalent of the Oscars. Ironically, several Amiga developers would be returning the next week to the same exhibition hall for recognition of their contribution to television the previous year. Although NewTek was not an exhibitor at the WOCA, the Toaster Design Group and NewTek president, Tim Jenison, received Emmy awards from the Academy of Television Arts and Sciences for developments in television engineering. The Engineering Committee of ATAS recommended the NewTek design team and Mr. Jenison be awarded an Emmy for 'developing computer technology that has brought many editing tools out of high-priced editing suites, and made them available on desktops of the television creative community.' While this high praise is warranted, maybe NewTek should have been in Pasadena the week before when GVP, Centaur, and a new Amiga company, Warm and Fuzzy Logic, all made significant inroads into the Video Toaster's markets.



The almost-legendary A4000 tower system – unveiled at last!

LightWave 3D users were given a surprise by Warm and Fuzzy Logic. According to their representatives, LightRave is a custom hardware module that emulates all of the Toaster functions needed by *LightWave 3D*. It enables any Amiga to run *LightWave 3D* without requiring a Video Toaster. LightRave also adds a suite of professional features never before available to *LightWave* users. It will render images faster than a Toaster-equipped Amiga, as no lengthy display »

AMIGA TRANSPUTER – CRAY SPEED ON AN AMIGA?

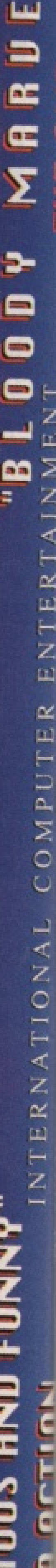
U.S. Cybernetics stunned attendees with their introduction of the WARP System transputer. The WARP Board uses advanced parallel processing with Superscalar TRANSPUTER processors at speeds of 30 MIPS to several GigaFLOPS. The transputer is a 32-bit processor with an on-board 64-bit floating point unit that operates in parallel with the main processor. Each transputer chip has four serial links that allow it to communicate at speeds of 2Mb per second with other transputers when linked in a network. Interfacing is performed through the WARP Board library and all programming on the board is done in C.

U.S. Cybernetics' representatives promised the system would be available by December. The basic system will be priced under $1000 (Canadian) with a 30Mb processor. Upgrades will be priced at $700 to $900 for additional transputers. A high end unit running at 200 MIPS will be available by the first quarter for $1500 to $2000.

Although the WARP was running only demonstration software at the show, *Vista Pro* is promised by November with *ImageFX*, *CineMorph*, *Real 3D*, and more to follow. U.S. Cybernetics stated they were extremely interested in helping any interested parties in converting their software to their parallel processing system.



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PRESSURE PADS
GHOSTS
GAURDIANS
COIN MASTERS
AND
MANY
MORE
PACKED TO THE
BRIM WITH GAME PLAY GOODNESS
MEAN
ARENAS
"IT'S FAST FURIOUS AND FUNNY"
"BLOODY MARVELLOUS"
INTERNATIONAL COMPUTER ENTERTAINMENT





Although the Pasadena show was fairly large, the atmosphere was still relaxed and informal.

time to the Toaster is required.

Rendering is no longer limited to the Toaster's composite display. LightRave now allows *LightWave 3D* to render directly to the most popular 24-bit graphics cards, such as IV24, Retina, OpalVision, DCTV, and Firecracker 24. More importantly, LightRave also makes *LightWave 3D* fully functional for PAL users(!) and promises to support other display boards.

NEW FROM GVP

GVP showed off two hot new items, the TBC Plus and EGS-28/24 Spectrum. The TBC Plus is an internal broadcast quality video processing card. It operates as an infinite window time-base corrector using 8-bit professional quality all digital video signal processing. TBC Plus includes a full SMPTE/EBU time-code receiver-generator operating in all VITC/LTC formats and standards. It includes a three-channel video input switcher in composite and Y/C. The TBC Plus is a normal Zorro II Amiga Card that can be installed in any open Zorro slot of the Amiga 2000, 3000, or 4000.

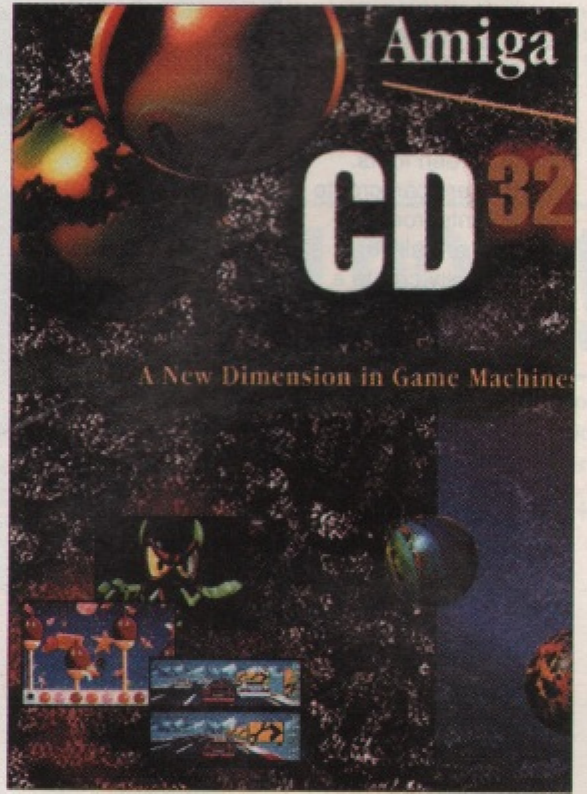
The EGS-28/24 Spectrum is a high performance and high resolution graphics board that will take any Amiga 2000, 3000, or 4000 to AGA resolutions and higher. This entry-level graphics board provides performance and power at an affordable price. The Spectrum is capable of displaying video resolutions as well as workstation-like resolutions such as 1120x832. It also adapts automatically to either a Zorro-II or Zorro III bus and supports Workbench 2.04, 2.1, and 3.0 to take maximum advantage of its environment.

In GVP's theatre, attendees watched standing-room-only demonstrations of GVP products as well as a sneak preview of Animaniacs from Warner Brothers. Rusty Mills, Animaniacs' director was also on hand to discuss his work with *ImageFX* on the project.

Centaur also had a theatre at the front of the exhibition hall. They were demonstrating the as yet unreleased video modules for OpalVision. Centaur attracted crowds with each demonstration as they had at Australia's WOCA, the National Association of Broadcasters in Las Vegas, and at their booth at SIGGRAPH.

Unfortunately, Centaur representatives were not able to offer a precise date for the modules' release. While some stated it would only be a month or two more, everyone agreed they were working hard for a full release before Christmas.

DKB were showing off two of their latest creations, the Piccolo and the DKB 3128. The Piccolo joins the onslaught of 24-bit graphics cards, bringing with it Zorro II and III bus compatibility, 1Mb or 2Mb fast video RAM, true 16-bit and 24-bit modes, and fully programmable resolutions. The card also features double buffering and multiple screens. The DKB 3128 was billed as the 'world's largest memory board.' The 3128 allows you to bring your Amiga 3000 or 4000 up to 128MB of fast RAM. The board accepts standard 4, 8, 16, and 32Mb SIMMs and can be configured in a variety of ways. The board is a true Zorro III 32-bit card. Fully populated, you could play back over 50 seconds of real-time animation from RAM.



How Commodore are flogging the CD32 to the American punter.

SunRize Industries premiered version 3.0 of its Studio 16 digital audio hard disk recording and editing software. The most significant new feature of Studio 16 3.0 is the highly intuitive time-line-based cue list that makes audio production as simple as point and click. Other major new features include: automatic fades and cross fades, automatic mixing, external MIDI mixer support, SMPTE chase, assignable tracks, and multiple digital audio card support. Studio 16 3.0 will ship with both of SunRize Industries' digital audio cards, the AD516 and AD1012 beginning in November. The Studio 16/AD516 bundle has a list price of $1495 and the Studio 16/AD1012 combination has a list price of $595.

Pride Integrated Video displayed their PIV-2001 video editing system for the Amiga. The PIV-2001 software and hardware system allows your Amiga to have integrated editing capabilities. From cuts to fully integrated editing with the Video Toaster, the PIV-2001 completes any desktop video workstation.

MacroSystems US was on hand displaying some of their more popular Amiga products. VLab video acquisition program, *TV Paint*, their 24-bit paint package, and the display-emulating Retina board were on display as well as their new MultiFrame multiple image and video processing controller for *Art Department Professional* and *Morph Plus*. MultiFrame adds the freedom to create multiple effects over time by allowing the user to enter the values for all the complex operators and have the changes take effect over the number of frames that you need to generate.

A new product from Heifner Communications was their *Pegger* image compression software. *Pegger* automatically JPEG's files, saving time and disk space. Running in the background, *Pegger* provides seamless compression and decompression of 24-bit, DCTV, HAM8 and Toaster framestores. *Pegger*'s ARexx capabilities allow the integration of *Pegger*'s batch processing abilities with other programs that support ARexx. The list price for the program is $99.95.

Expert Services were showing off their Picasso II graphics card. Picasso II provides greater resolutions and more speed than AGA systems and brings the ability to run AGA software on a non-AGA machine. The card brings resolutions up to 1280x1024 with 256 colours on screen. It also supports custom screen modes with up to 16.7 million colours at resolutions as high as 800x600. The Picasso II comes packaged with *TVPaint Jr.* and drivers for *AdPro*, *ImageFX*, *ImageMaster*, and *Real 3D 2.0*.

FUN AND GAMES

For various reasons, Amiga gaming is never properly represented at these events. While productivity, graphics, sound, music, and more are always well represented, the Amiga gaming community is very seldom present. However, several Amiga developers have found ways to combine fun with their productivity packages.

Oxxi announced a new presentation and interactive production software package, *VideoStage Pro*. *Videostage Pro* can easily create video and on-screen interactive presentations. Shows can incorporate text, graphics, video clips, and sound. Remote control via modem or network and built-in ARexx interface enable *VideoStage Pro* to develop applications in training, kiosk style information centres, and video catalogues.

Videostage Pro provides the user with a pallet of images as they create their presentation. This instantly recognisable screen allows the user to construct the presentation without utilising keywords or names for each frame. The program, still in beta testing, appeared to be a smooth running competitor for SCALA. [*See review elsewhere in this issue – Ed*]

Magic Lantern by Terra Nova Development is a program designed to create, edit, and display delta-compressed animations. It takes as input IFF picture and sound files created from other sources and creates animations that run on various frame buffers in up to 24-bit colour. Once an animation is created it can be edited. All editing functions can be accessed through a Workbench-like interface. *Magic Lantern* is now available from Terra Nova Development for $95.

Designer Objects Vol. One, also by Terra Nova Development, is a three-disk set of high quality 3-D objects. The set includes all of the objects and image maps needed to create a complete diner from the 1950s. There are booths, seats, a counter with stools, dishes, utensils and place settings; a pay telephone and a restroom, and a Wurlitzer 1015 jukebox. The price is $47.50.

»

» MovieMaker is the latest creation from Interactivce Video Systems. It's a sophisticated digital non-linear hard disk audio/video editing system for animators. It is a complete package and includes a timeline based editor/player, 16-bit audio capture/playback card, AES audio editing software and system utility software.



Expert advice was always on hand – all you had to do was ask.

Several interesting new products were on show from Interworks. The first was a PCMCIA Ethernet adaptor for the A600 and A1200. The I-Card package includes a high-speed 16-bit Ethernet adaptor plus a SANA II compatible driver, allowing the A600 and A1200 to easily tie in to the popular ENLAN-DFS peer to peer networking software. The package also offers complete compatibility with other Amiga Ethernet-based networking programs that follow Commodore's SANA II standard. The MSRP for this card is $299.

Interworks second new product was the Photon-Accelerator plug-in module for LightWave 3D. The Photon-Accelerator allows LightWave 3D users to perform complex animations and effects with a powerful, easy to use graphic interface. The system features a 3-D character generator, follow-me motion, perfect for caterpillars and trains, non-linear time-based editing, and actor-oriented animation.

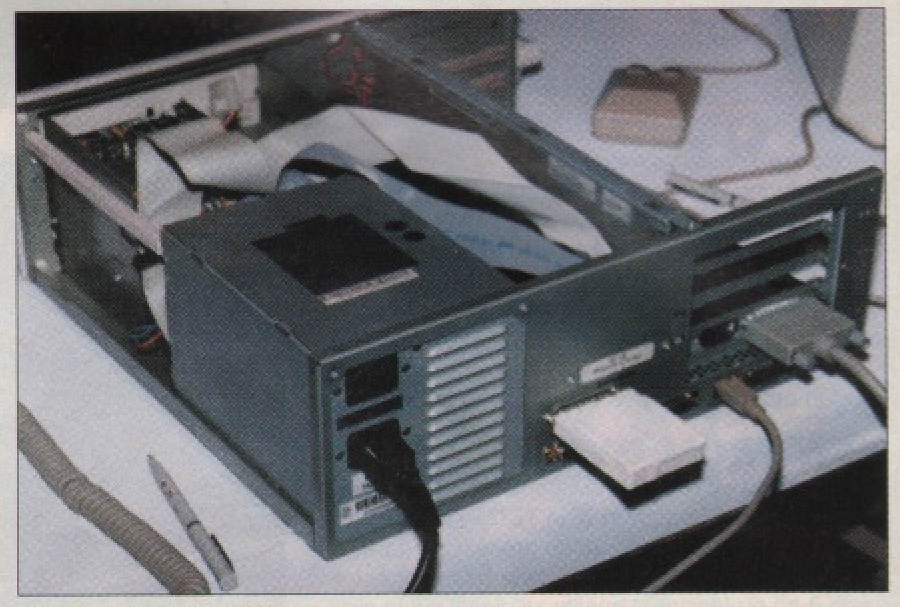
Finally from Interworks was the Toaster Net Render Farm software. Toaster-Net brings tremendous power to any LightWave 3D user. Toaster Net allows rendering sequences of LightWave 3D frames, rendering selective frames from LightWave 3D scenes, and efficient delegation of rendering across a network for optimum speed. Toaster-Net requires the Toaster 3.0 software. The suggested retail price is $349 for a five-system license.

FARGO Electronics displayed their Primera Colour printer, a full-colour, low-cost thermal transfer printer. FARGO also released a printer driver for the Amiga. The incredible thing here is that this printer will bring the high quality of a thermal wax transfer and dye sublimation printer to the Amiga for under $1000. FARGO sells an upgrade kit that brings photo-realistic quality to the printer. The Amiga driver is being made available at no extra charge. It can be obtained direct from FARGO. The driver is compatible with all Amigas running Workbench 1.3 or higher. A minimum of 2Mb of RAM is required, 4Mb recommended.

SoftLogik demonstrated *PageStream 3.0*, a completely new version of their popular desktop publishing program. *PageStream 3.0* contains a comprehensive list of features requested by their users and can be used for everything from writing simple letters to publishing complex books with multiple sections and chapters. It also has new trapping and plate control features.

It also now supports the PANTONE Colour System. In addition to PANTONE support, *PageStream 3.0* offers support for spot and process colour, and CYMK, HSV, and RGB colour modes. The DTP program will be available in the early fall for $395 in the US.

SoftLogik also demonstrated two Amiga favourites, *TypeSmith2.0* and *Art Expression*. *TypeSmith 2.0* can load, save, edit, and generate bitmap screen fonts. Amiga users can create bitmap fonts from scratch manually or automatically create a bitmap version of an existing outline font. *TypeSmith 2.0* is now available from SoftLogic for $199.95. SoftLogic also displayed their *Art Expression* structured drawing program, designed to make complex or simple drawings which can be scaled and used at any size without loss of quality.


Warm and Fuzzy Logic's LightRave allows users to use *LightWave 3D* without a Video Toaster!



ANIMATED ANTICS

Myriad Visual Adventures announced a new training video, Animation 202: Fractal Freedom. The video is an intermediate course in Amiga animation. The first video in this series was a great success and the author adds a flourish of flying fractal scenery that is interesting.

Axiom Software announced two new products, Anim Workshop 2 and WaveMaker. Anim Workshop 2 is an animating editor for the Amiga. Anim Workshop 2 supports all Amiga 4000 AGA modes, Anim5, Anim7, Anim8, animation create, process, edit, play, sound insertion and batch processing of images.

WaveMaker allows for the easy creation of LightWave 3-D animations with little 3D experience.

VIDEO HIGHWAY

Alpha Video has implemented Desktop Video Wizards Network, a desktop video dealer network. Its initial members represent 80% of the dealer Video Toaster sales in the U.S. Desktop video dealer members of the Wizards Network are kept informed through daily news broadcasts via a private network called Channel 4000. Channel 4000 is a graphical, interactive transmission sent through SCALA's InfoChannel and covers a wide range of topics in several different segments. Desktop video manufacturers sponsor the news and are also recipients of the daily Channel 4000 feed.

WHAT'S NEXT?

Whether it was the result of a long, turbulent summer or the realisation that in order to make money, you must announce and ship product, the result is that the Pasadena World of Commodore Amiga was a fantastic success for anyone looking for new Amiga products. The Amiga vendors were excited and talked nonstop about their releases. These same vendors were also speaking off the record about new products and services their companies were preparing for release.

Hot was the key word for WOCA Pasadena '93 for both the weather and the Amiga. Despite the doom and gloom merchants, the future looks exceptionally bright for Commodore's Amiga, with many companies unveiling some breathtaking pieces of kit. It was encouraging to see just how much R&D has been committed to the machine by so many hardware and software developers. Watch out for reviews of most of the products we've covered in this round up in future issues of CU Amiga! CU



THE JAKKI BRAMBLES COLUMN

Well OK then you Mums and Dads, it's that time of the year again when letters to Santa are coming your way. We get a lot of phone calls at this time of year from you guys because it really isn't that easy to decide which of the mega bundles to buy. So this month we have an easy guide to help you make that really important choice.

Amiga 600 Single Drive - The ONLY home computer for **less than £200**. Suitable for the child fed up with paying out £40 for software for their Megadrive (software available from £9.99) or for the first time buyer. There are hundreds of software titles available including games, education, word processing, home accounts etc. Games available include strategy / role playing, titles where imagination is more important than aggression, learn to create animations not zap aliens aimlessly. **Age Group 8 - 13**

A600 Hard Drive - A more serious version of the above. The hard drive saves repeatedly loading and swapping floppy disks. Suitable for serious games players and applications such as database management for a student or home office environment. The Epic Pack is particularly useful for a foreign language orientated student. **Age Group 12 +**

Amiga 1200 Chartbusters - Only the really lucky child will receive this as their first computer. Its state of the art latest Amiga technology made it the computer that most kids aspire to. Its fast 32 - bit technology makes it the choice of Amiga enthusiasts who want not only the ultimate in games playing but also serious applications. You can expand this computer through the addition of hard drives, extra memory, accelerator boards whatever the option most suitable for producing any number of serious applications. Want to be a graphic artist, video producer, film director, cartoon animator, musician, mathematician, designer..... the only limitation to the machine is your imagination. **Age Group 10 - 100**

Amiga 1200 Desktop Dynamite - As above but but with some serious applications included in the package. The perfect solution for the student. You want him or her to have a computer to produce school work using quality Desktop Publishing software, he / she wants a dynamic games playing machine. This gives both of you what you are looking for. The software alone is worth over £300. **Age Group 14+**

Amiga CD32 - The choice for existing Amiga owners looking for the latest product in the range or for the dedicated console owner. Knocks the Sega for six with its State - of - the - Art graphics. (Colours on screen Sega = 64/ CD32 = 256 or 262,000) and processing speed (Sega = 16-bit / CD32 = 32-bit) To you or me this means that people who write the games can now display more colours on screen and the action can be even faster. Also be aware this is also a Compact disc player with full four voice stereo sound so you can play your favourite CD's when the kids are at school. Connects to standard TVs and most hi - fi's. **Age Group 10+**

I hope this info assists. With Commodores help I'm certain that there will be thousands of happy smiling faces on Christmas Day, but if you're still not sure give Indi a call they will be delighted to help.

Seasons Greetings.

Jakki Brambles

BUY NOW PAY 1994!!!!

Christmas is a very expensive time of year so here's an offer that really helps you buy in time for Christmas and spreads the cost over next year. Choose any Indi product (or mix of products) valued at over £200, pay 10%deposit and start paying again in 3 months time. **Here's how if works**, choose your products and telephone **Indi on 0543 419999** and ask for Credit Sales. We will ask you a few questions, explain to you what you will pay and when and then complete our credit check. Within 24 hours we will be able to clear your order and subject to status deliver your products to you.

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The exterior may be sleek but lurking inside the Amiga CD32 is a technological wonder. At it's heart is the mightily powerful 68EC020 processor from Motorola. This contains the 32 - bit technology which has made the Amiga 1200 a runaway success throughout Europe.

Alongside it is Commodore's unique custom AGA (Advanced Graphics Architecture) chipset - comprising three chips nicknamed Paula, Lisa and Alice.

Together they make Amiga CD32 and awesome powerhouse of high speed graphics and stunning sound capabilities.

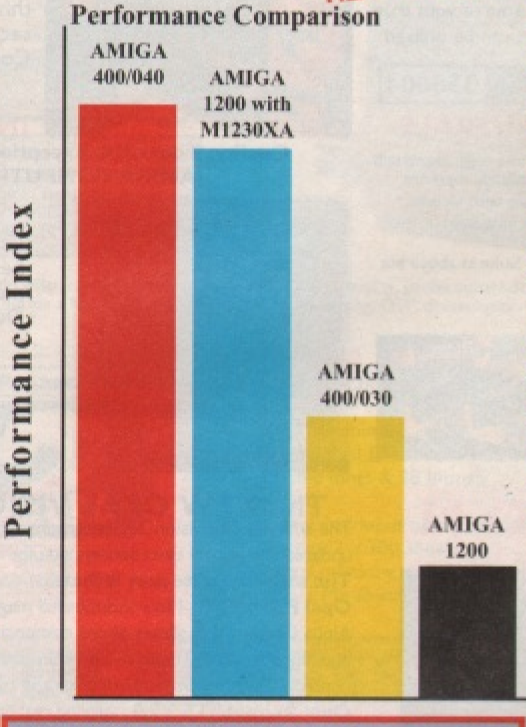
In fact, the machine can display 256,000 colours on screen (compared to Sega's Mega CD which can only display 64) and has a total colour palette of 16.8 million colours.

Amiga CD32 also comes with a chunky 2 Meg of RAM (that's15 times more than Mega CD) and a double speed drive.

SPECIFICATIONS:

* 14 MHZ 68EC020 processor
* 2 Megs 32 - bit chip RAM
* 2 Joystick ports/controller ports
* S- video jack
* Composite video jack
* RF output Jack
* Stereo audio jacks
* Keyboard connector/ auxiliary connector
* Full expansion bus
* Headphone jack
* Headphone volume control
* External brick power supply
* Internal MPEG FMV expansion capability
* Multiple session disc capability

We've said it before and no appologies for repeating it. Adding an Indi Microbotics M1230XA card to your Amiga 1200 turns it into a MEAN MACHINE!



IT'S AN OFFER YOU CAN'T REFUSE

6 MONTHS INTEREST FREE CREDIT

Buy the superb new Amiga 1200 Desktop Dynamite Pack from Indi and we will send it to you for only 10% deposit withe the balance over 6 months Interest Free*

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If you find an identical product advertised in this magazine at at a lower price than the advertised Indi Price and available for immediate delivery then we will match that price*. Our way of ensuring that Indi customers have the guarantee of the very best service and the lowest price in town.

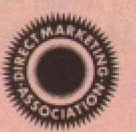
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The DMA Symbol.



TERMS AVAILABLE OVER 6, 12, 24, & 36 MONTHS SUBJECT TO STATUS.

WHY NOT RING FOR A QUOTE. SAMEDAY RESPONSE. (SEE EXAMPLE)

Panasonic *Quiet* Colour Printing



We researched the colour printer market at great depth to find a colour printer good enough to cope with Amiga's powerful output, yet at an affordable price.
We found the perfect printer in the KX - P2180 and KX - P2123 quiet printers.
We then considered that if you were going to buy a Panasonic printer you would probably need a quality word processing package to use with it. We found that too, with 'Wordworth' yet at a retail price of £129.99 we thought that might be a little too expensive on top of your printer purchase! So together with Panasonic we decided to give a copy of 'Wordworth' free with every Panasonic printer. How's that for added value?

Panasonic KX - P2180



***WORDWORTH AGA COMPLETELY FREE!**

WITH PANASONIC QUIET PRINTERS. The writers choice. The ultimate word processor for AMIGA computers. Wordworth is undoubtedly the ultimate word / document processor for the full range of AMIGA computers. The graphical nature of WORDWORTH makes producing documents faster and easier, with the enhanced printing fonts (including full Panasonic KX - P2180 and KX - P2123 colour printing support), Collins spell checker and thesaurus, no other word processor comes close. "Without doubt this is one of the best document processors for the AMIGA, Today" (Amiga Format)

NORMAL RRP £129.99 inc. VAT

The new Panasonic KX - P2180 9 -pin quiet printer. Produces crisp clear text in mono or in 7 glorious colours with new quiet technology. THe new KX - P2180 is typically 15dBa quieter in operation, than the competition.

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- **Colour Printing** 7 colour palette (blue, red, green, yellow, violet, magenta,black)
- **Quiet printing** Super quiet 45 - 48 dBa sound level (most matrix printers are typically in excess of 60 dBa)
- **6 Resident Fonts** Over 6,100 type styles using Courier Prestige, Bold PS, Roman, Script and Sans Serif Fonts.
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INDI 320000

£169.99

Panasonic KX - P2123

INDI 320001

£219.99



The new high performance Panasonic KX - P2123 24 pin. Quiet colour printer offers leading edge quiet printing technology at an affordable price

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- **Colour Printing** 7 colour palette (blue, red, green, yellow, violet, magenta, black)
- **Quiet Printing** Super quiet 43.5 - 46 dBa sound level (most matrix printers are typically in excess of 60 dBa)
- **7 Resident Fonts** Over152,000 type styles using Super LQ, Courier Prestige, Bold PS, Roman, Script, and Sans Serif Fonts.
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- **1 Year Warranty** for total peace of mind.

Panasonic LASER PRINTER

KX - P4410 LASER PRINTER



KX - P4430 LASER PRINTER



WORDWORTH AGA COMPLETELY FREE WITH PANASONIC LASER PRINTERS. The writers choice. The ultimate word processor for AMIGA computers NORMAL RRP £129.99 inc VAT



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KXP - 4410

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- 28 resident fonts
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- Parallel interface
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- HP laserjet II Emulation

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Panasonic 2 YEAR ON-SITE WARRANTY

KXP - 4430

- Satinprint (optimum resolution technology)*
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*(Satinprinters use optimum resolution technology to produce truly outstanding print quality. This software technique smooths away traditional jagged edges on curved characters and lines by varying the printed dot size

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The NEW Amiga 4000/030 features a EC68030 processor running at an incredible 25Mhz, and upgradable at a later date to a faster processor. The 4000/030 has a powerful 2 Mb of 32 - bit RAM expandable to 18 Mb using industry standard 32 - bit Simms module. In line with the Amiga Flagship 4000/040 the 4000/030 features the new AGA graphics chipset, giving you a massive pallet of 16.8 million colours. A range of hard drive options are available from 80 - 240 Mb and includes a SCSI option.

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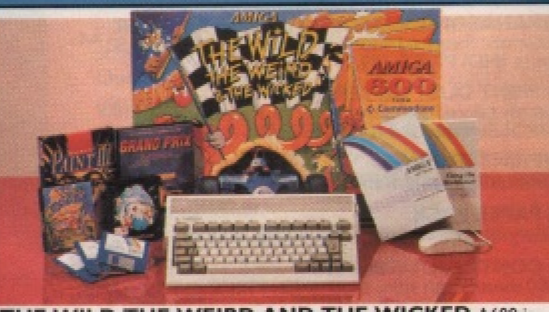
Parnet Adaptor for CDTV

Connect a CDTV player to any Amiga, and access the... of CD - ROM software.The Parnet interface and so... will allow the Amiga CDTV to be used as a CD - ... drive withe any Amiga and will give any Amiga owner... to the vast range of CDTV software currently availab... The CDTV player offers excellent value for money... compared with a standard CD - ROM drive and in... Most CD - ROM drives will set you back over £400... CDTV will cost you less than £300 and will play audi... in addition to CD - ROM / CDTV disks your Amiga... face cable and PD disk with driver software for your C... player. **(The Parnet adapter can be use... link any Amigas together)**

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AMIGA A600 PRICE CRASH



THE WILD THE WEIRD AND THE WICKED A600 is an ideal starter pack containing a considered mix of software, making the most of the Amigas capabilities.

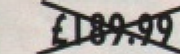
PACK CONTAINS:
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* Mouse and Manuals

LOW LOW PRICES

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A600 - SD A single drive Amiga for those of you requiring a basic A600 at a very competitive price.
PACK INCLUDES: A600 single drive, built in TV modulator, 1 Mb memory. 12 Months at home service

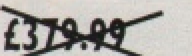
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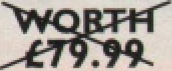
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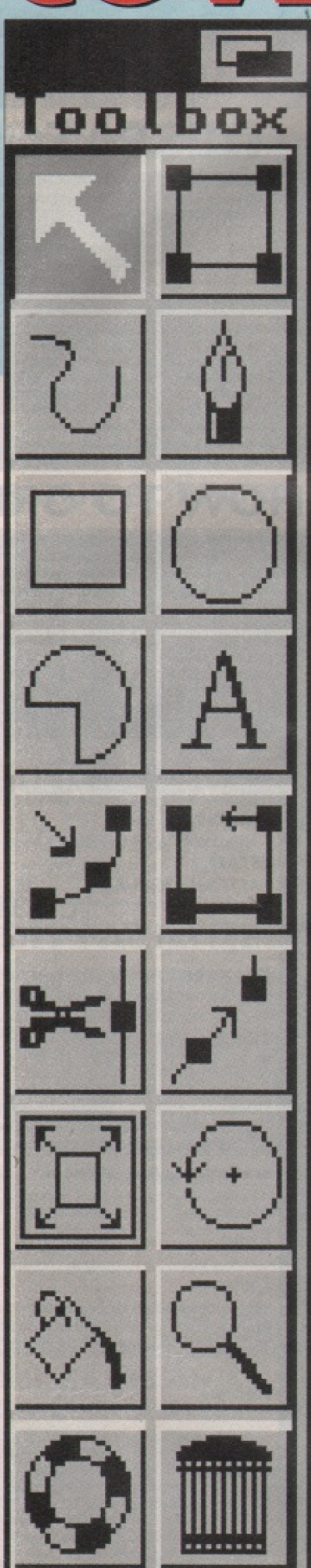
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COVERDISK 68



If this month's coverdisk had been available in the Fifteenth century, Leonardo DaVinci would have put away his pencils for good. *Expert Draw* is the ultimate drawing tool for artists and desk top publishers alike.



EXPERTDRAW

ExpertDraw is a structured drawing program – it doesn't mess around with bit-mapped images like the typical paint and drawing programs. With *ExpertDraw* you can build graphics and re-size them without 'jaggies' or loss of quality. However, drawing with this program is not as straightforward as it is with other graphic packages, but with a little practice and patience spectacular results can be obtained.

AGA-AMIGAS

First of all, a note to Amiga users who have machines with the AGA chipset. Before using *ExpertDraw* you must select either Original or Enhanced chipset from the Boot Options screen and then continue to boot up. To call up the Boot Options screen hold down both mouse buttons immediately after a reset.

Right, with that bit out of the way we can continue looking at the program. *ExpertDraw* will load on its own interlaced screen. If you want non-interlaced then you must alter the tooltypes to FLAGS=NOLACE. Your Workbench manual will tell you how to do this. Other options are FLAGS=STD for a standard screen, or FLAGS=WB to open *ExpertDraw* on the Workbench. This conserves Chip memory.

This requestor will activate a co-ordinates window plus border and grid. The grid spacing can be changed from the defaults by altering the x and y spacing.

Layout Tools

Coordinates	Ruler
Grid X 0.39	Y 0.39
Snap to Grid	Border
	OK

WHAT'S ON THE MENU

When *ExpertDraw* is up and running you will see the work area – a large window with drag bars along two sides. In the work area there is a white rectangle which is the 'piece of paper' that we are going to draw on. At the extreme right of the screen is the toolbox which has a number of gadgets for us to draw with.

By holding down the right mouse button we can access the pull-down menus in the program's title bar. The first menu is labelled Global. Here's a breakdown of what the options do.

New: will delete everything on the page, allowing you to start afresh if you get bored with the drawing you are working on.

Document: will call up a requestor which you can use to determine the size of page you want to work on. This requestor also controls the measurement system for your drawing and shows the rulers that border the work area.

The numbers in the boxes below borders indicate the page's margin. These can be altered if you want to limit your graphics to a particular area.

Load and Save: enable you to keep your *ExpertDraw* documents on disk.

Save Preferences: stores the configuration of *ExpertDraw* to disk, so that you don't have to reset it to match your requirements each time it is loaded.

The next two menus, Import and Export, are for saving and loading other types of graphic files. *ExpertDraw* can load in files generated by *Aegis Draw*, Clips from *ProDraw* or itself, and *VectorTrace* files.

POSTSCRIPT

Files that can be saved in addition to *ExpertDraw's* own document format are: Clips, Postscript (EPS), and Screen (IFF).

The View menu contains a number of items that control how much of the page you can see. Here's a guide to some of the options available.

Layout Tools: will call up a requestor that has a number of buttons within it. The ruler button is already switched on.

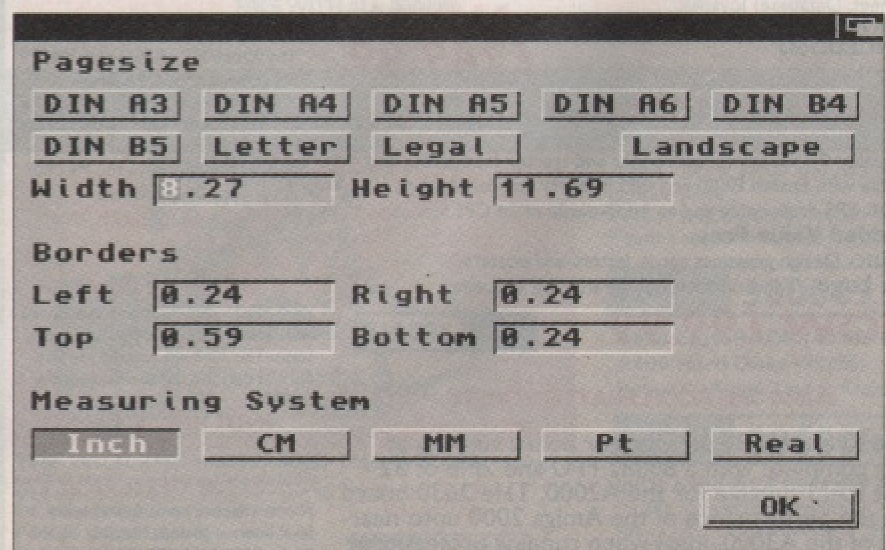
Co-ordinates: will open a small window at the bottom of the screen which gives the current cursor position as an x,y co-ordinate. This position will be given in the measurement unit (inches, picas, etc) set in the Global/Document requestor.

Grid: overlays the work area with a grid of dots which can be used as a measuring template. The distance between the dots is specified in the x,y fields.

Snap to grid: limits the drawing tools so that all operations must start and end on one of the grid points.

Border: is the gadget that switches on the boundaries set in the

***ExpertDraw's* toolbox has a variety of icons that control objects and their creation.**
The Document requestor sets up your paper size and the type of measurement system you're familiar with.

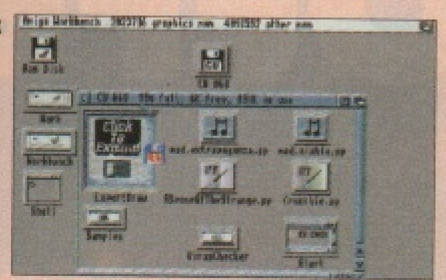


QUICKSTART GUIDE TO LOADING DISK 68

1 *WRITE PROTECT YOUR DISK!* Make sure the tab on the coverdisk is in the open position before you do anything.

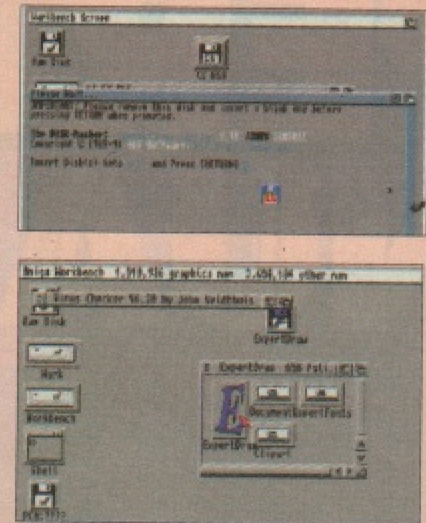
2 In order to get as much on the disk as possible, the main *Expert Draw* program has been archived. This means that you can't use it directly from the coverdisk, so before you begin, get yourself a spare floppy at the ready. Anything on the spare disk will be completely overwritten, so make sure there's nothing on it you need.

3 Insert coverdisk 68 into the first internal drive and switch on your Amiga.



4 Double click the CU 68 disk icon, then double click the *Expert Draw* icon.

5 Following the on-screen instructions, insert your spare disk when it asks you to do so. The spare disk must be write enabled (the tab must be closed). Press RETURN.



6 To load your *Expert Draw* disk, you'll first need to load Workbench or boot from a hard drive. Once Workbench has loaded, insert *Expert Draw* and load it with the *Expert Draw* icon.

DISK VIRUSES

CU AMIGA makes every effort to ensure that viruses do not get on to our disks. We always have the most advanced virus checkers available when the disk is compiled and every program goes through rigorous testing before it appears on our coverdisks. However, we can accept no responsibility for possible damage incurred by viruses which may have escaped our attention.

IF YOUR DISK WON'T LOAD

If your coverdisk doesn't seem to work as it should, remove all unnecessary peripherals. Follow the instructions on these pages to the letter, and if after that you find that the disk still doesn't work, call the PC Wise helpline on 0685 350505 between 1030 and 1230 Monday to Friday. If they advise you that the disk is faulty, then pop it in an envelope with a covering letter explaining what the problem is to: CU DISK RETURNS, PC WISE, DOWLAIS TOP BUSINESS PARK, MERTHYR TYDFIL, MID-GLAMORGAN, CF46 2YY. Please include 28p per disk to cover postage and packing (55p for overseas readers). A new working one dispatched to you as soon as possible. Please note that neither we nor PC Wise accept responsibility for any disks damaged due to negligence on the part of the user.

Global/Document requestor.

Wire frame: If this is on the current drawing is shown in outline mode only. Switch it off and all objects created will be filled.

ExpertDraw can operate in colour but the more colours you use, the slower the program gets. In Black and White mode colours are represented by up to 16 shades of grey which greatly speeds up re-drawing.

Passing over the Object menu we come to the Attributes menu. This menu contains a selection of colours for fill objects and lines. This menu also determines line thicknesses or weight. **Replace** calls up a requestor where you can search for particular drawing attributes, like line weights, and replace them with different values. Before we move on to those menus not yet covered we had better look at the toolbox and do some drawing.

PASS ME THAT TOOL

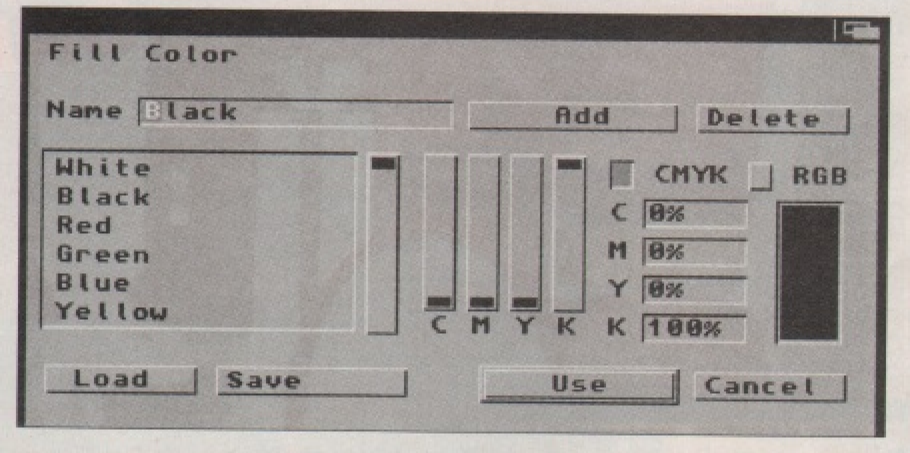
Click on the box that contains a squiggly line. This is the Freehand Drawing tool. Now go over to your paper and, with the left mouse button held down (LMBHD), draw a shape. Try drawing a heart shape.

Not easy is it?! Drawing accurately with the mouse takes a lot of practice. Luckily, many drawings can be built up from simple shapes.

Now select the tool that looks like a square with a box in each corner. This is the Select/Move points tool. Go over to your 'heart' and with the pointer to the top and left of the object drag out a box to surround it.

This is done with LMBHD during the operation. You should now see a number of points appear on the circumference of your object. These are the support points.

You can now pick any point and move its position. The connecting lines are adjusted so you could attempt to tidy up the object. The start point is shown larger than the rest.



The colour requestor has a number of presets. These are described in a choice of RGB or CYMK values. Custom settings can be named and added to the list.

The arrow is used to select and move the objects you have drawn. To select an object click on the Select/Move Objects tool and then on the heart shape. All the support points disappear to be replaced by four small squares at each corner of the object. With LMBHD the pointer will change to a hand and you can then reposition the object on the page.

Select the object and click on the Trashcan tool. No more heart. Now click on the tool that looks like a lifebelt. Our heart re-appears. This is the Undo tool.

Okay, let's draw something more substantial. Dump what you've already done by selecting Global/New. Now choose Global/Document and set the page size to A4 with measurement in centimetres (cm).

Now go to View and pick Full Width, then Layout Tools. In this requestor choose Grid. Pop over to Attributes and call up the Line Width requestor. Choose a setting of 2.0 points.

Click on the tool with the square and holding the left mouse button down create a square about 9cm in size. Use the rulers to gauge the size.

To make it easier hold down the shift key while you do this. It forces *ExpertDraw* to make the rectangle exactly square.

We are going to draw a computer disk. Click on the box that contains the *Pacman* lookalike. This is the Sector tool. Now click on a dot in the grid and with the LMBHD drag out a small circle that fills an area in an imaginary box formed by four of the grid dots.

Once this is finished a requestor will appear and I want you to alter the angle from 360° to 90°. Select 'OK' and an arc is drawn.

Now go up to the title bar and pick the Object/Copy item. This will store a copy of our object in memory. Move the arc near to the top left corner of the square.

Click on the magnifying glass (Zoom Tool) and then using the technique we used to drag out a rectangle, draw one around the square's corner so that it encloses the arc too.

An enlarged image appears and we can accurately place the curve into the corner of the square. Now pick the menu View/200%. Go over to the other corner and enlarge that using the Zoom as we did before.

Then choose Object/Insert. A rectangle appears attached to the pointer. Drop it onto the page with a click of the mouse. We now need to rotate this arc for the other corner.

Pick the Rotate tool, it looks like a circular arrow. Objects can be turned through any number of angles about any position. We want to turn our arc so that it fits the other corner.

Type in '-90' in the Centre field, press Return and then click on 'OK'. The arc is rotated 90 degrees clockwise. Place as before and then do the bottom right corner, using '-180' for that angle.

Select the box containing the pen. This is the Bezier Polygon/Curve drawing tool. It is very powerful, yet the most difficult to master.

Enlarge the bottom-left corner and with the Bezier Curve tool activated click on the upright side of the disk picture, about five divisions on the ruler up from the bottom. Now move the mouse diagonally so that the line drawn reaches the

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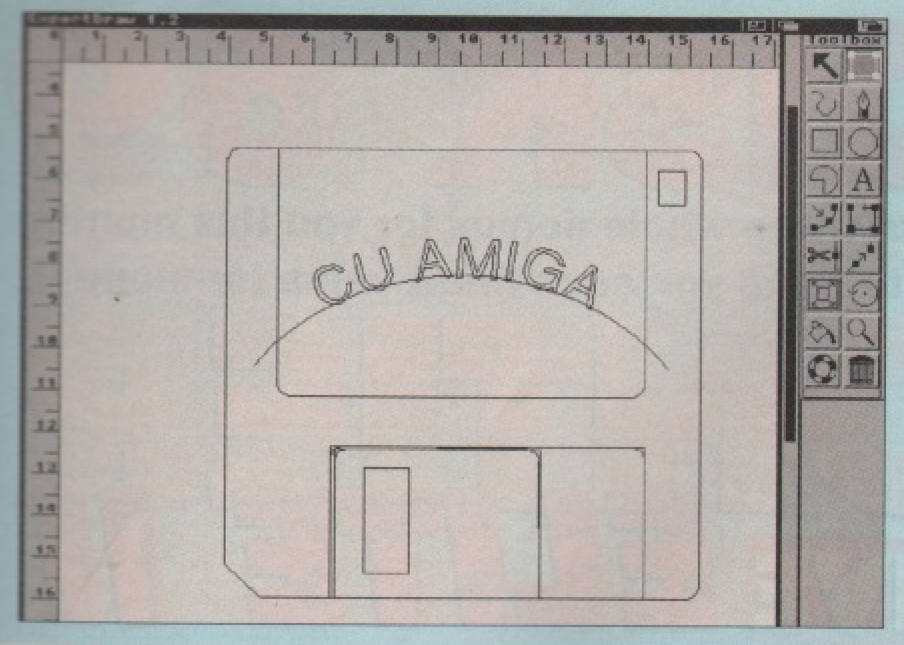
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The partially cleaned-up disk in wireframe mode, showing how it is made up with rectangles and arcs.

lower edge of our disk and click the LMB. As you move the mouse another line is drawn from that point. Pressing the ESC key on your keyboard will cancel further drawing.

Now complete the disk by drawing rectangles for the slider, its window and the write protect hole. Finish off by placing arcs in the relevant corners. If they don't accurately line up then you can use Zoom to enlarge an area, followed by the Select/Move Points tool to highlight the line's points. By clicking on the little square support points and with LMBHD you can adjust the lines into the right positions. This is best done under magnification.

This tool can also be used to create curves. To do this the lead points must be defined. This is done with LMBHD to draw out and rotate the lead point. When the button is released the curve can be positioned and then the process can begin again, unless ESC is pressed.

There are now a lot of corners in our disk that have arcs rounding them off. Let's remove these sharp edges. Enlarge each corner and highlight the line support points using Select/Move Points. Click on the tool that has a pair of scissors in it. This is the Remove Points tool. Click on the point at the right angle. It has now been split into two, although you cannot see it just yet. Click on the point and, with LMBHD, drag the line back to the beginning of the arc. Do the same for the other line and all the

VectorTrace
Load IFF-File
Wipe Dots | Clean Picture
Increase Outlines | Negative
Save IFF-File
Trace
Lines | Areas | Smooth Curves
Optimize | Pack | UNDO
Save VectorTrace-File
OK

What every budget DTP'er wants. A utility that can trace bit-mapped graphics and turn them into structured drawings.

other corners, including the corner that has a slope instead of an arc.

ExpertDraw can manipulate text too. Before it can be placed onto a drawing, a baseline has to be put in position. For the disk label, I drew a large arc with zero line width and an angle of 100 degrees. This was then positioned and rotated in the disk label area.

A click of the tool labelled 'A' followed by a click within the baseline object's area calls up the text requestor. *ExpertDraw* provides two fonts in various sizes. The label text was done in Helvectica at 36 pts with 'Middle' justification. It was 'Aligned to curve' and 'Rotated'. This means that the text follows the curve with each letter at ninety degrees to the baseline, thus forming an arch.

Using the tool that looks like a square with arrows coming from it, we can resize the entire object.

Select the object with the Select Points tool then click on the Resize tool. Move the pointer to the top left of the disk and, with LMBHD, drag out a box that is larger than your original. The picture will now be enlarged. If your box is smaller then the object is reduced. If you drag the box away from the object then the result is rotated. **Hint:** always save your work after every other drawing operation – just in case.

WHAT ABOUT THE OTHER MENUS?

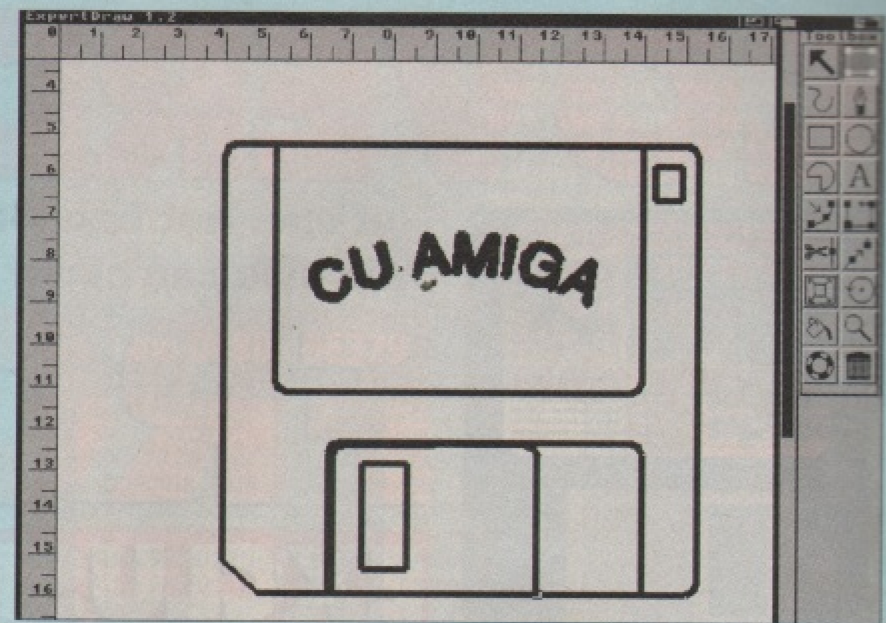
We have already used some of the items from the Attributes menu. This is what the others do.

Undo acts the same way as its namesake in the toolbox. **Front** and **Back** will move a currently selected object either to the fore or to the rear. **Select All** will highlight all the points in a drawing. The **Select Points** tool is used to draw a rectangle. Only points that fall within that rectangle will be selected..

Cut operates like **Copy**, but the original is deleted from the drawing. **Align** is used to place objects relative to each other or to the page. One of its uses is to centre text, so *ExpertDraw* can be used as a Desktop Publishing (DTP) program if you've got the time.

SPECIAL MENU: KEY ITEMS

The Special menu contains a number of useful items, especially for owners of DTP programs.



The completed disk in glorious monochrome. Blimey, you've done it!

The **VectorTrace** function allows you to load in an ordinary bit-mapped IFF and have it converted to a structured drawing. This can then be used in your DTP package as is, or it can undergo further manipulation in *ExpertDraw*. After loading in the picture with **Load IFF**, it is best to pre-process the image as *ExpertDraw* does not like loose ends. Picking **Wipe Dots** will remove any stray pixels from the image. This should be followed by **Clean Picture** to dispose of any checkerboard patterns (grids) it might contain.

Once this is done you can choose what type of trace you want from **AutoTrace**. *ExpertDraw* provides some bitmap clipart on disk for you to experiment on.

Colour Blend will graduate colours between objects. First select an object of one colour, then another of a different hue. Now select them as a group and choose Special/**Colour Blend**. This can work on text too. **Distortion** will alter the symmetry or perspective of an object. With LMBHD you can deform the object. Press ESC to set the changes. **Hint:** practice makes perfect.

EXTRA! EXTRA! READ ALL ABOUT IT

SAMPLES

There was just room enough on the disk to squeeze on a few IFF sound samples. There's one taken from the Roland TB 303 (see this issue's Sound Lab feature for more info), plus a short breakbeat and a little jazzy loop. These can be loaded into just about any music package.

TUNES AND PICTURES

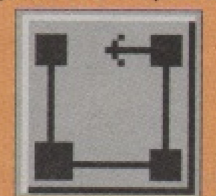
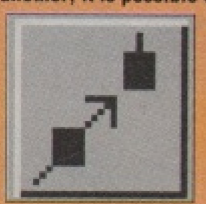
Double click the picture icons to view them from Workbench, or load them into any paint package. The tunes can be heard by double clicking their icons, and can be loaded into *OctaMED*, *Protracker* and other tracker-based programs. To stop the tune playing, press both mouse buttons together.

A QUICK GUIDE OF THE OTHER DRAWING TOOLS

The one shaped like a bow and arrow is the Insert Point tool. Select two points in sequence after clicking on this box and you can then put a new point between them.

The tool similar to Move/Select Points but with an arrow is the Polygon Closing tool. When selected the last point of a polygon will be connected directly to the first.

The box with the thin diagonal arrow is the Polygon Connecting tool. By selecting the start point of one polygon, and the end point of another, it is possible to link them together.


COVERDISK 69

Not one. Not two. But three whole demos for you this month. Who else can claim to bring you such great value for money?

FRONTIER ELITE II

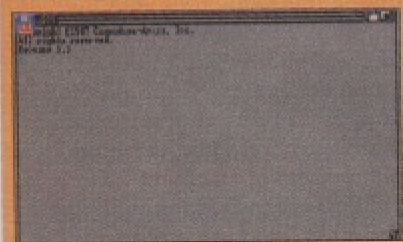
EXCLUSIVE

YOUR QUICKSTART GUIDE TO LOADING DISK 69

It's a breeze getting into all that gaming fun contained on this month's disk. Follow these instructions and you'll be laughing. Fail to do so and we'll send the boys round in the wee hours of the morning.



1 Switch off your machine for at least 30 seconds. Viruses are nasty, dirty things and you don't want to give this beautiful clean disk a nasty infection. Turn it on again and wait for the disk prompt to appear. Whack in disk 69 and wait for it to load the menu.



2 When the menu appears you'll see three icons to choose from. To load any one of them simply click once on the icon with the mouse pointer or, even easier, press the appropriate function key (F1, F2 or F3).

DE-CRUNCHING!!!

3 While the demo is loading the screen will either go grey like this...

DE-CRUNCHING!!!

4 or black like this. Don't worry it is loading. After a brief time the game will have loaded. Time to read the other copy now for the relevant instructions. If, through some quirk of fate, the disk doesn't load try the above procedure again. If you're still having problems take a look at the panel headed 'If your disk won't load' elsewhere on the coverdisk pages.

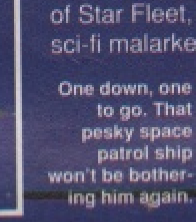
Frontier is probably the finest game ever made. In fact, if you check out our review you'll see it's the highest scoring game we've ever featured in CU AMIGA. If you want to see what all the fuss is about load up this superb demo.

Coded by David Braben, this game has been in the works for five whole years and it shows. Super smooth, finely detailed and action packed *Frontier* will stun you into insanity. This exclusive non-playable demo is taken from the loading sequence to the game and shows off the graphic engine a treat.

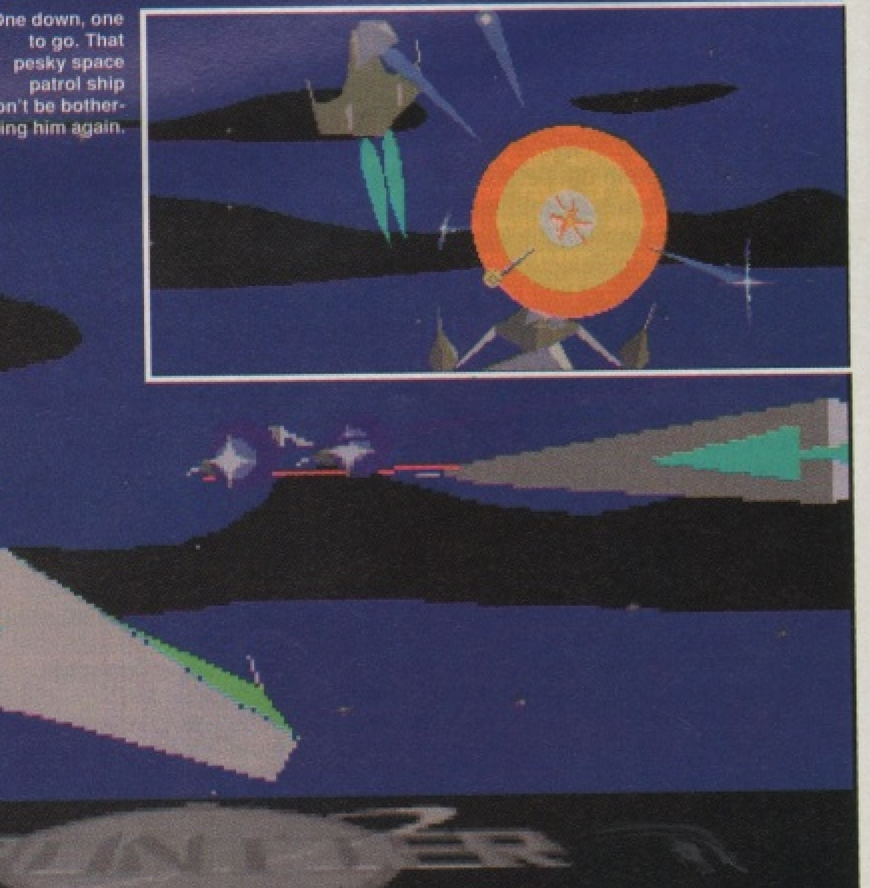
The movie-like sequence sets the scene for the game with a lone adventurer pitted against the might of Star Fleet, or some other such sci-fi malarkey. He's made planet fall in a desperate attempt to avoid two military assault craft that are on his tail. He's spotted though and, as the ships dive in for the attack, he guns his thrusters and shoots off into deep space.... Anyway, sit back, relax and take in the sheer gob smacking thrill that is *Frontier*.



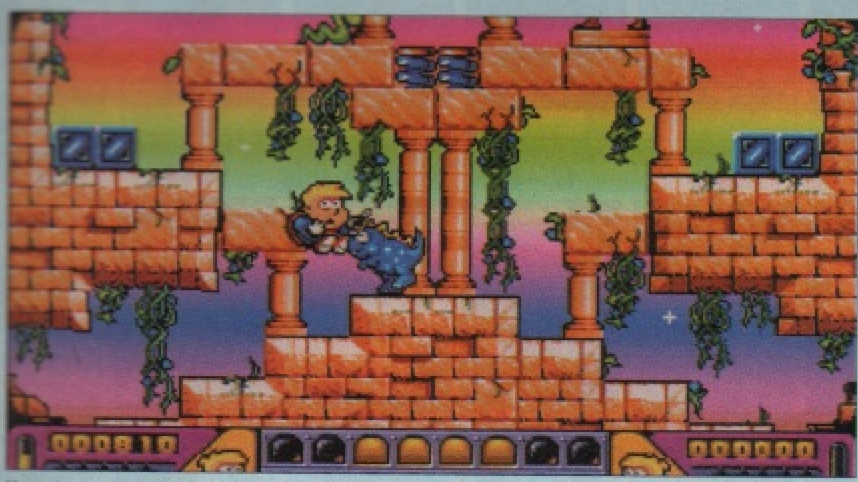
These stations always figured large in *Elite* so *Frontier* wouldn't be complete without them.



One down, one to go. That pesky space patrol ship won't be bothering him again.



The pursuing ships just won't let up. Our hero will need all his flying skills to get out of this scrape.



If you're too slow with the wand the monsters won't let you forget it – they sap energy with every touch.

MAGIC BOY

Poor old Magic Boy is not much of a wizard's apprentice. He's always forgetting to do the really important things like making sure the monsters his master has collected don't escape! Luckily for Magic Boy this latest accident happens when the wizard's away. So, it's up to you to guide him as he collects the escapees across four levels of Sand Land. Take care where you jump though 'cos not every platform is safe – some disappear, some fry Magic Boy and others are so slippery he'll slide off the end onto something nasty. If that wasn't bad enough the wizard'll be back soon so keep a eye on the clock at the top of the screen.

To collect the beasts you'll need to stun them first. Use your magic wand to fire a little magical bolt of energy, then run over the monster before he wakes up. They're automatically dropped into Magic Boy's bag, pull down and they disappear back into the cage at the bottom of the screen. Don't dally though or they'll escape again.

Occasionally, a stunned beastie will drop a bonus for you such as three way fire and a special shot which allows you to fire up. They're usually released at a relevant point so put them to good use. If you've got the time, take a look around each level for the hidden warp that completes that stage.

That's about it. The controls are simple – left and right to move; up to jump; and fire to fire. Now you know what to do what are you doing still reading this?



Each level is groaning with goodies to collect. Bag them all for an end of level egg bonus.

Those Team 17 boys have gone back to basics with this frighteningly addictive classic-style platformer. Out on budget now, *Qwak* has no silly story, no false hype and no frills – just one very playable game. And we've secured four levels of action for you. You can even ask a mate to join in for some two-player simultaneous leaping!

The object is to collect all the keys on the screen in as short a time as possible. To put a spoke in your wheels there's all manner of weird creatures just waiting to pounce. Single contact with them removes a layer of armour, multiple contact means death. To keep them out of your way chuck an egg in their face! Watch out though 'cos the supply's limited. You can add to your egg collection by picking up the fruits scattered around the screen, collect enough and you'll get an egg-xaggerated bonus at the end of the level. You might also notice a few brown bottles here and there, pick one up and have a glug – you never know you might get an egg-cellent power up for a short while. Some potions will even turn your eggs into chocolate – these are special weapons which kill baddies immediately. When a creature dies it'll throw a sweet up into the air, be quick and catch one for a special bonus.

Get Qwaking!



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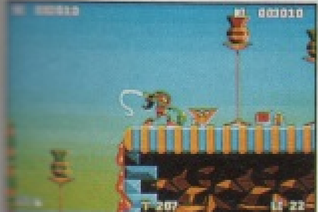
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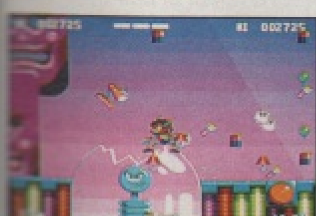
ARCADE PLATFORM

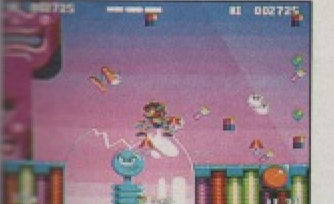


ZOOL 2

ZOOL, and his female companion ZOOZ, face a challenge which wilts the knees of the toughest Ninja's in this state of the art **PLATFORM ARCADE ACTION** sequel. **KROOL** and his accomplice **MENTAL BLOCK** are once again out to wipe imagination from the face of existence. Playing **ZOOL** or **ZOOZ** fight your way through **NINE** massive levels of hugely varied and enjoyable gameplay. Meet **ZOON**, a two headed alien dog, one head stupid, the other highly intelligent.









Features Include:

- Play either **ZOOL** or the all new **ZOOZ**, each with their own special strengths.
- A wide variety of highly intelligent enemies.
- Many varied power ups and collectibles.
- Hidden bonus rooms and secret levels.
- Sizzling sound FX and a choice of in game tunes.
- Nine huge levels.

"The classic sequel to 1992's biggest selling Amiga game".

ADVENTURE/STRATEGY

K240

Only when you take control of **K240** in this superb **STRATEGY** game will you understand what real pressure is. The Terran Empire has expanded. Mankind and six Alien races are struggling to maintain peace in the face of dwindling resources. Is destruction inevitable.

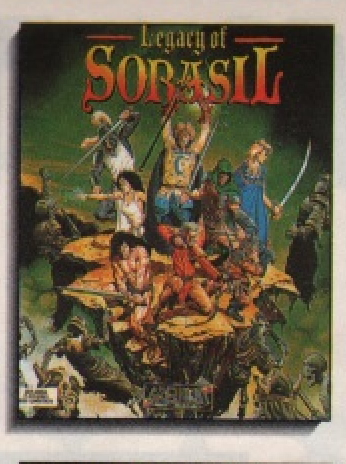
You are the Commander of the mission to explore and exploit **K240**, but can you build a successful and peaceful colony deep in the recesses of space, or will greed and aggression bring the empire down.



Features Include:

- 6 different Alien life forms.
- 8 different types of space crafts.
- 16 different types of weapons and shields.
- Fully designable asteroid field interface.
- Highly intelligent enemy colonies.
- 40 different building structures.
- A vast range of complex interactions to understand and control.

FANTASY & ROLEPLAY



LEGACY OF SORASIL

THE LEGACY OF SORASIL is a fantastic and huge world of adventure. The fabled land of Rhia has fallen foul of a mysterious plague. Choose a party of intrepid adventurers from 8 would be Heroes and try to return the land to it's peaceful state. Battle your way through 10 vast stages against a legion of highly intelligent foes. Endless hours of solid and far reaching gameplay.









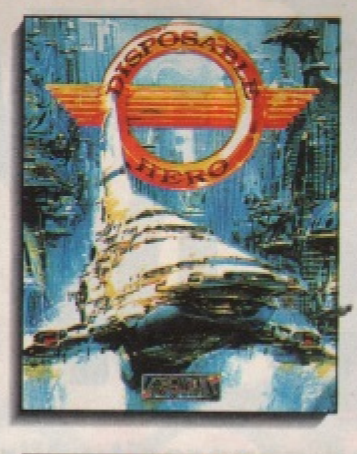
Features Include:

- 10 perilous quests to be completed.
- Stunning 3D isometric display.
- Simple point and click interface.
- 8 heroes, all with specialist skills and abilities.
- Eerie sound FX and tunes.
- Fully self mapping.

"If you want challenging gameplay and a game that's going to last you can't go far wrong with this".

CU Amiga

SHOOT 'EM UP

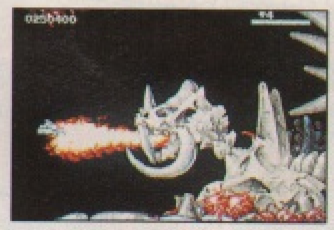


DISPOSABLE HERO

Get that trigger finger ready for an **ARCADE SHOOT 'EM UP** that takes up the genre where others have feared to tread. The Free Worlds lie technologically bankrupt. An Alien tyranny threatens mankind. As a certified **D-HERO** it is your task to fight your way through 6 levels of non-stop heart pumping finger sweating eyeball racing thumb busting, nerve jangling action to penetrate the alien strongholds.







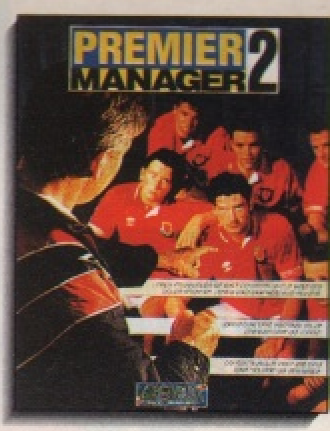
Features Include:

- Arcade quality graphics, backdrops and animation.
- Fully adjustable sound FX and in game tunes.
- Hundreds of weapon configurations.
- Mind blowing Mid-level and End-level guardians.
- Choice of assault craft with Four levels of difficulty.

"First impressions? whoah! blast, blast, boom! death, guns, more death, action and excitement!"

The One

FOOTBALL STRATEGY



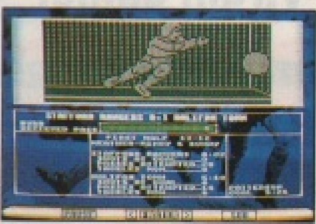
PREMIER MANAGER 2

PREMIER MANAGER transformed the face of **STRATEGY** football management games with it's accessible and enjoyable game style. It has remained in the charts since it's release late in 1992. And now, **PREMIER MANAGER 2** is ready with a whole host of added features. Have you the management skills to turn around and improve your teams performance?

Get ready to blow the whistle on **THE** football game for 1993.







Features Include:

- 16 playing formations with 8 playing styles and 12 match tactics.
- Negotiate wages, bonuses and contracts.
- Comprehensive banking system with changeable interest rates.
- Up to 26 players per team with limit of 4 foreign.
- Set ticket prices and crowd control.
- **IMMEDIATE** sacking possible if you're not up to the job.

"This really is the best bits of all the footy games, bundled together and laid out on a golden plate for you".

The One



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In a fit of unparalleled generosity, Virgin have teamed up with CU Amiga to offer £15,000-worth of prizes in our biggest ever giveaway bonanza. Not only can you win a state-of-the-art CD32 games console, but there's also a chance to win a *Mortal Kombat* or *Terminator 2* coin-op. On top of that, we're also offering 200 runners up a FREE game, plus everyone else gets a £5 discount off a top Virgin game!

200 FREE GAMES



HURRAH! I'VE WON A £5 DISCOUNT ON A VIRGIN GAME

Normally, any Virgin game would cost you £29.99 in the shops, but we've negotiated a £5 discount on a selection of their top games. If the telephone message reveals that you've won a discount, you can choose from *Mortal Kombat, Terminator 2 - The Arcade Game, Dune 2, Global Gladiators, Reach for the Skies, Goal!* or *Alien 3*. Please indicate your preferred game at the bottom of the scratchcard. Send your completed card to: Ayendrie Nawalage, Customer Services, Virgin Interactive Entertainment, 338A Ladbroke Grove, London, W10 5AH. Don't forget to make your cheques payable to Virgin Interactive Entertainment and make sure they are for the correct amount of £24.99!

S'TRUTH! I'VE WON A CD32

If you're lucky enough to have won one of the 10 CD32s we're giving away, then you'll need to send your completed card BY RECORDED DELIVERY to Dan Slingsby at CU Amiga, EMAP Images, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. Once we receive the card, we'll verify your claim and contact you direct to arrange delivery of the hottest games machine around.

GORDON BENNET! I'VE WON A COIN-OP

We've also got two coin-ops to giveaway. If you find out that you've won one of these, you'll be able to choose between a Mortal Kombat or Terminator 2 coin-op. To make your claim, you'll have to send your winning card, BY RECORDED DELIVERY, to: Dan Slingsby, CU Amiga, EMAP Images, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.

HOW TO USE YOUR SCRATCHCARD

Attached to the cover of this issue is your scratchcard, the key to winning one of the superb prizes we've got on offer for you this month. Here's how it works:

Scratch away each of the three silver panels to reveal the message underneath. If you're a winner, you'll find an 0839 number. If this is the case, ring the number to find out exactly what you've won.

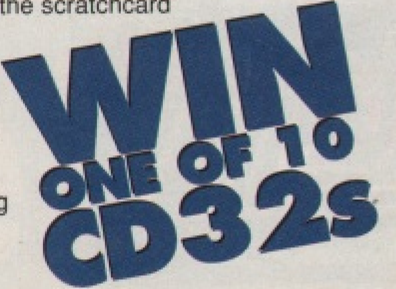
If you've won one of the 200 free Virgin games, follow the instructions below, making sure you clearly print your name and address on the scratchcard and that you send it to the appropriate address.

If you've won a £5 discount on a Virgin game, follow the instructions elsewhere on this page, making sure you enclose a cheque for £24.99 made payable to Virgin Interactive Entertainment.

If you've won a coin-op or one of the 10 CD32s that we've got on offer, you must fill in the back of the card and send it to the Editor, Dan Slingsby, BY RECORDED DELIVERY to CU Amiga, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU. We will then get in touch and organise the delivery of your prize.

BLIMEY! I'VE WON A FREE VIRGIN GAME

If you've won a free Virgin game, you can choose from any of the following titles: *Mortal Kombat, Terminator 2 - The Arcade Game, Dune 2, Global Gladiators, Goal!* or *Reach for the Skies*. We cannot guarantee that you'll receive the game of your choice as stocks are limited, but we'll do our best. Indicate your preference at the bottom of the scratchcard and then send your completed card to: Ayendrie Nawalage, Customer Services, Virgin Interactive Entertainment, 338A Ladbroke Grove, London, W10 5AH. Virgin will then verify your claim and your game will arrive within 28 days of the competition's closing date.



OVERSEAS READERS

Unfortunately, overseas readers will not be able to call our phone lines. So that you can take part in the competition, we will be printing a full list of phone numbers next issue and be explaining what they mean to you. We've also extended our competition deadline for overseas readers ONLY until January 10th, 1994, to give you plenty of time to send in your cards.

IMPORTANT

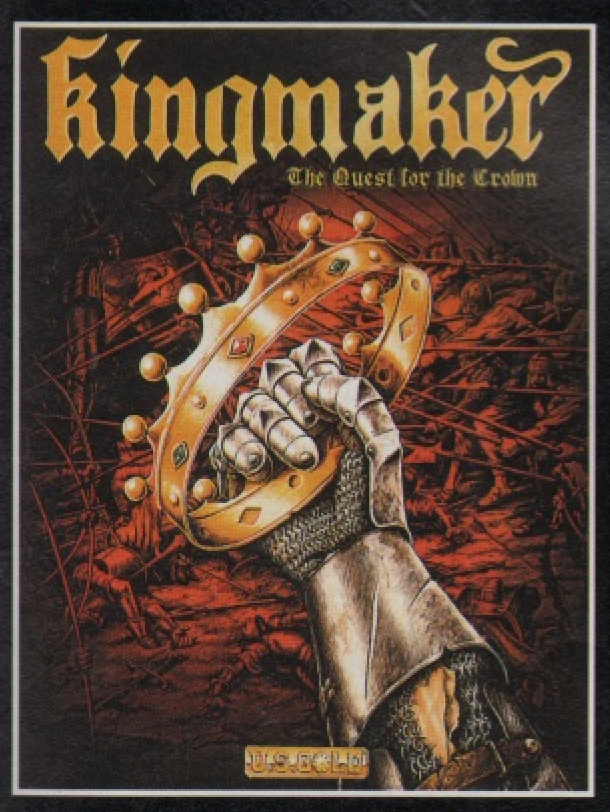
If you have won a £5 discount on a Virgin game, remember to make your cheques payable to Virgin Interactive Entertainment. Oh, we've already mentioned that, so we'll shut up and leave you in peace!

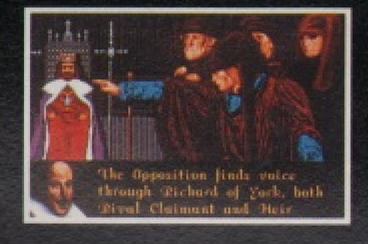
RULES

1. All entrants will be deemed to have read and accepted the rules.
2. No purchase is necessary. This game card can be obtained from Customer Services, Virgin Interactive Entertainment, 338A Ladbroke Grove, London, W10 5AH.
3. Cards will be declared void if found mutilated, illegible, altered, forged or tampered with in any way.
4. The Editor's decision is final. No correspondence will be entered into.
5. Proof of postage cannot be accepted as proof of receipt.
6. Employees of EMAP or Virgin are not eligible to enter.
7. Phone lines are open on the 19th October 1993 and close on the 19th November 1993.
8. Calls cost 36p/min cheap rate and 48p/min at all other times.
9. Length of call is no more than 2 mins.
10. Cost of call will be no more than 96p.
11. Calls from public pay phones may be more expensive.
12. If you don't pay the phone bill, please ask permission before you make a call
13. Competition closes on December 1st 1993.

PLAGUES bloody ANARCHY fear EXECUTION

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When chaos rules, a King is in the making. The War of the Roses is ripping the land apart as you do battle for the ultimate prize. In time, one man will emerge as King of all England...

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Kingmaker. Battle for glory and seize your prize.





Screen shots are only intended to be illustrative of the gameplay and not the screen graphics which may vary considerably between different formats in quality and appearance and are subject to the computer's specifications.

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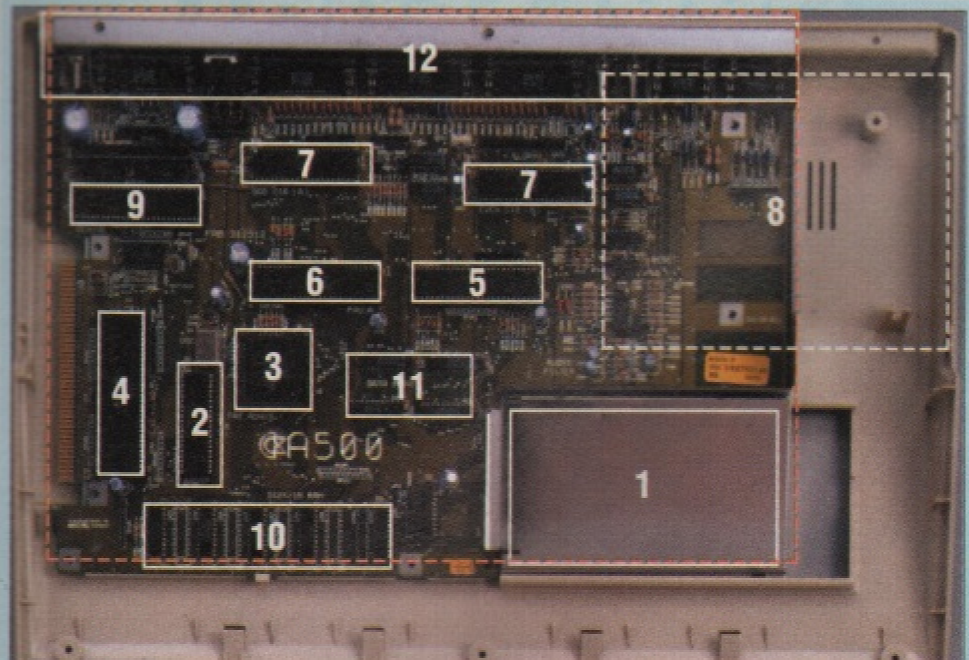
What's up doc?

A GUIDE TO AMIGA MAINTENANCE

PART 1

Computers have a habit of breaking down at the worst possible moment. It's infuriating, but there's nothing you can do about it, is there? Well, actually there's plenty you can do to avoid your beloved Amiga letting you down when you need it most. Once it has gone down, there are usually a number of options you can take before you call in the men in white coats. Let CU AMIGA take you on a crash course in computer first aid.





KNOW YOUR ENEMY – INSIDE AN AMIGA

1 - 512K Ram upgrade. This is known as fast RAM.
2 - Kickstart chip. This can be upgraded to 2.1 to support more RAM.
3 - Agnus chip is concerned with moving graphics, and is the most expensive chip.
4 - 68000 central processor. Accelerators replace this and make your machine much faster.
5 - Gary helps with the drives and keyboard among other things.
6 - Paula is the chip that handles the Amiga's four channel sound output.
7 - CIAs are one of the commonest components to go wrong in the Amiga because they are involved with the parallel and serial ports, the mouse, drives and keyboard.
8 - The floppy drive would normally go here.
9 - Denise is another of the chips involved in the Amiga's graphics. This time it handles sprites, the screen resolutions and number of colours.
10 - RAM chips. In this case 512k of 256kbit chips make up the computer's chip RAM.
11 - Data buffers. These chips act as a temporary storage area for information being processed by the custom chips.
12 - External ports and connectors. These include the parallel, serial and mouse ports. Between them, misuse of these ports accounts for a substantial number of faulty Amigas as plugging things into them whilst the machine is switched on can blow a number of chips, especially the CIAs.
Orange dotted box – Metal shielding. Although you can only see the bottom half here, the metal shield that surrounds your motherboard is located in this area so that it will pass American regulations on Radio Frequency emissions.

Keeping your Amiga healthy

There are a number of habits you can get into that will help keep your Amiga ticking over in good health.

Dust covers are a very good idea. Dust can creep up slowly before you realise that it's even there. Dust weaves its way into all the sensitive nooks and crannies of your computer. Anyone living down-wind from a talcum powder factory, in a densely populated house, with lots of pets and a tumble dryer, should keep their machine covered at all times when it's not in use.

Cables and sockets wear out very quickly if they're switched around regularly. If you use a TV with your Amiga, it's worth investing in a small switcher box. You can then have both your TV aerial lead and the output from your Amiga permanently plugged into the box. When you want to change from one to the other, all you need to do is throw the switch. This will stop you having to continually pull at the TV aerial socket, which will probably give out very quickly.

Mouse problems are usually due to dirty rollers. Depending on your computer's environment, you may have to clean the rollers once a week to keep it running smoothly. This is a simple job, but can be fiddly with smaller mice. All you need to do is open up the hatch on the bottom of the mouse, take out the ball, and scrape the gunge from the rollers. Then, reassemble the mouse and that's that.

If it still isn't working properly, it could be that one of the 8520 chips has developed a fault. If this is the case, you'll probably find that the mouse only works horizontally or vertically. If so, check the mouse on another Amiga to check whether it's your computer that's at fault. If the mouse works fine with another Amiga take a look at the 8520 chips, and check whether they have come unseated.

Disk drive failure is usually due to one of two things: head misalignment or dirty heads. Disk drive cleaners are like normal floppy disks, but instead of having a magnetic plastic disk inside, they have a circular piece of cloth, onto which you can put drops of cleaning fluid. When inserted into the drive with the computer switched on, it spins round and cleans the heads. Alignment problems usually come down to loose components in the drive. If the head is drastically out of place, you should be able to spot this once you've taken the casing off the drive, and then be able to re-locate it.

WHEN THINGS GO WRONG

Whenever something unexpected happens, the first thing you must test is your power supply. The vast majority of problems are often caused by dodgy power supplies and the effects can be extremely diverse. If there's not a proper flow of current around your computer's various bits and pieces, all kinds of things can break down. Try your power supply on another Amiga and also try a different power supply with your Amiga. If your mate's computer acts up with your power supply, you've found the root of your problem.

If you're still none the wiser, disconnect all your peripherals and try using the computer with various combinations of TV, monitor, and any add-ons you may have available. After all that, if the Amiga is still dead, you could check the seating of the chips on the circuit board. Beware that when you open the case of your Amiga, you void any warranty you may have. If the machine is still covered by a warranty, get it looked at by an authorised technician.

Note: before you take a screwdriver to the computer, disconnect it from the mains and the power supply.

Make a note of the colour of screen you get when you power-up, and refer to the error messages section on page 45 for some clues as to what has gone wrong.

Armed with some basic knowledge of the offending components, you can then make some basic checks by removing the cover of the computer, and going around the chips in sequence, making sure that they're all firmly in place. If nothing seems to be out of order, put the cover back, and give it one last try. The old 'take it apart and put it back together' trick works surprisingly often, but when all your attempts have failed, it's time to call in the



SOFTWARE ALERTS & GURU MESSAGES

System crashes are no fun, but when they do occur, there are things to be learned. Those seemingly meaningless numbers that pop up at the top of the screen with the Guru or Software Failure messages can tell you just what went wrong. Likewise, the error codes thrown up by AmigaDos can also be deciphered, helping you get to the root of the problem. Not only that, but did you also realise that the flashing Capslock key and the screen colours at power-up are all clues to any bugs that may have cropped up? You do now.

With help from Commodore's technical support department, CU AMIGA can now bring you the definitive guide to all the error codes you could ever come across, right from the A500 through to the A4000.

GURUS AND SOFTWARE ALERTS

These are the messages that appear in flashing red boxes on the older Amigas, and yellow boxes on the more recent machines. The number you see is really four different numbers, which tell you which subsystem the program was in, the type of error that occured, and the memory address that it was accessing at the time. By analysing these, you should be able to figure out why it crashed. A Guru Meditation error is presented as a 16 character number such as: AA BB CCCC DDDDDDDD

A=Subsystem ID codes
B=General error codes
C=Specific alert codes
D=Address

Subsystem ID codes identify in which subsystem the error occurred. If this number is preceeded by an 8 (eg. 81), this indicates a Dead-end non-recoverable alert.

SUBSYSTEM ID CODES
00 – CPU Exception
01 – Exec Library
02 — Graphics Library
03 – Layers Library
04 – Intuition Library
05 – Maths Library
07 – Dos Library
08 – RAMLIB Library
09 – Icon Library
0A – Expansion Library
0B – Diskfont Library
10 – Audio Device
11 – Console Device
12 – Gameport Device
13 – Keyboard Device
14 – Trackdisk Device
15 – Timer Device
20 – CIA Resource
21 – Disk Resource
22 – Misc Resource
30 – BootStrap
31 – Workbench
32 – Diskcopy
33 – Gadtools
34 – Utility Library
35 – Unknown

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How Public Domain can help

Things always go wrong when you least expect them, or when you can't afford to splash out and pay for a dedicated program or an expensive repair kit.

Fortunately, the Public Domain is littered with programs to help you track down what's going wrong and point you in the right direction. Some of these free or shareware programs are even better than commercial programs, so don't sneer at them until your try them – they might save your bacon one day!

AVAIL

Avail is one of the best memory diagnostic programs, and it comes free with your Amiga. Simply type AVAIL at the CLI or SHELL prompt, and you get a list of memory like this:

Type	Available	In-Use	Maximum	Largest
chip	1637672	458456	2096128	1632768
fast	7316800	1071808	8388608	7303208
total	8954472	1530264	10484736	7303208

The above list came from an expanded A4000, which explains the rather toothsome amount of 'fast' memory. Vanilla A1200s won't have any of this Fast RAM, instead it will all be Chip RAM.

Notice the table heading called Largest. When you first switch on your Amiga, these figures will be quite large, however, after you have run a few programs the figure will drop. This is due to memory fragmentation, as the operating system splits the memory organisation into more and more chunks. Eventually, you won't have enough to run any large programs and the only way to defragment memory is to switch off and start again. However, most modern Amiga programs are very good at allocating memory, so fragmentation should not be a serious problem.

FLASHING CAPS LIGHT

On some Amiga 500/2000 machines you may come across a flashing Caps Lock error condition. Most of the time this is caused by an error in the keyboard circuitry. Listed below are the possible flash codes:

1 flash = ROM (internal to keyboard processor)
2 flashes = RAM (internal to keyboard processor)
3 flashes = watchdog timer (IC 741s 123 or associated circuitry)

If no flashes are displayed or the keyboard is not the cause of the problem, troubleshooting of the main PCB will be necessary.

SYSINFO

SysInfo is one of the most famous Amiga programs, practically everyone has seen it or used it because it's so easy to use.

Not to be confused with the medical diagnostic program CystInfo, *SysInfo* displays all manner of technical looking information – including the speed figures. Read 'em and weep you sad A600 owners, heh heh.

As soon as you load it, up pops a screen giving you tons of information on your computer set-up. All down the right-hand side of the screen is a list of the various pieces of silicon in your hardware. All the Motorola processors – even the notoriously difficult to detect MMU – are listed, along with their operating speeds. Built-in clocks and PCMCIA slots are checked for, as are the current revisions of the custom chips.

On the top-left of the screen is a list of the libraries, ports and devices currently loaded. When you have added Fast RAM to your system it is encouraging to note that the libraries migrate to speed up your computer.

Underneath this section is my favourite part: the speed trials. The speed of your computer is measured against other known systems, to either boost your ego or tempt your wallet. MIPS stands for Millions of Instructions Per Second and MFLOPS stands for Millions of Floating Point Instructions Per Second.

Other screens will list your exact memory layout, the names of any external boards added and the configuration of any hard drives. The hard drive speed testing is seriously flawed, so don't take it too seriously.

Disk drives can also be examined, either as logical devices or raw SCSI peripherals. But don't trust the speed test results!

Despite the drive checking problems, *SysInfo* is an excellent program and provides a quick peek into your hardware. Results can be sent directly to the printer which makes comparing machines very easy.

SHOWCONFIG

Another free-gift program, this one is hidden in the Tools drawer of Workbench 3 machines. *ShowConfig* provides a concise list of the available hardware, rather like this:

```
PROCESSOR:
CPU 68030/68882fpu/68030mmu
CUSTOM CHIPS:
AA PAL Alice (id=$0023), AA Lisa
(id=$00F8)
VERSION:
Kickstart version 39.106, Exec
version 39.47, Disk version
39.29
RAM:
Node type $A, Attributes $505
(FAST), at $7800000-$7FFFFFF
(8.0 meg) Node type $A,
Attributes $703 (CHIP), at $400-
$1FFFFF (~2.0 meg)
BOARDS:
Board (unidentified):
Prod=18260/6($4754/$6) (@$EA0000
128K)
```

The only snag is that the MMU in an 68030EC processor isn't detected as being non-functional, so be don't be fooled.

HDTOOLBOX

Yet another Commodore program, this one is aimed at A1200 and A4000 owners with hard drives. Before you can add a new drive to your system, you need to 'prep' it and partition it. *HDToolBox* will do all this for you, and most of it will be automatic too.

There are some points to be wary of though: first of all, be careful about partitioning a drive you are already using, as all the data will be lost. »

GENERAL ERROR CODES
01 – Not enough memory
02 – Couldn't make library
03 – Can't open library
04 – Can't open device
05 – Can't open resource
06 – I/O error
07 – No signal
08 – Bad parameters
09 – Close library failed; usually too many closes
0A – Close device failed; or a mismatched close
0B – Process creation failed

SPECIFIC ALERT CODES

EXEC Library
0001 – 68000 exception vector checksum (obs)
0002 – Execbase checksum bad (obs)
0003 – Library checksum failure
0005 – Corrupt memory list detected in FreeMem
0006 – No memory for interrupt servers
0007 – InitStruct() of an APTR source (obs)
0008 – A semaphore is in an illegal state at Rem Semaphore()
0009 – Freeing memory that is already free
000A – Illegal 68K exception taken (obs)
000B – Attempt to reuse active OIRequest
000C – Sanity check on memory list failed during AvailMem (MEMF_LARGEST)
000D – IO attempted on closed IORequest
000E – Stack appears to extend out of range
000F – Memory header not located. Usually an invalid address passed to FreeMem
0010 – An attempt was made to use the old message semaphores
00FF – A quick interrupt has happened to an uninitialised vector
CPU Exceptions
0002 – Bus error
0003 – Addressing error
0004 – Illegal instruction
0005 - Divide by zero
0006 – CHK instruction
0007 – TRAPV instruction
0008 – Privilege violation
0009 – Trace
000A – OpCode 1010
000B – OpCode 1111
000E – Stack frame format error
0018 – Spurious interrupt error
0019 to 001F – AutoVector Level 1 to 7 int error

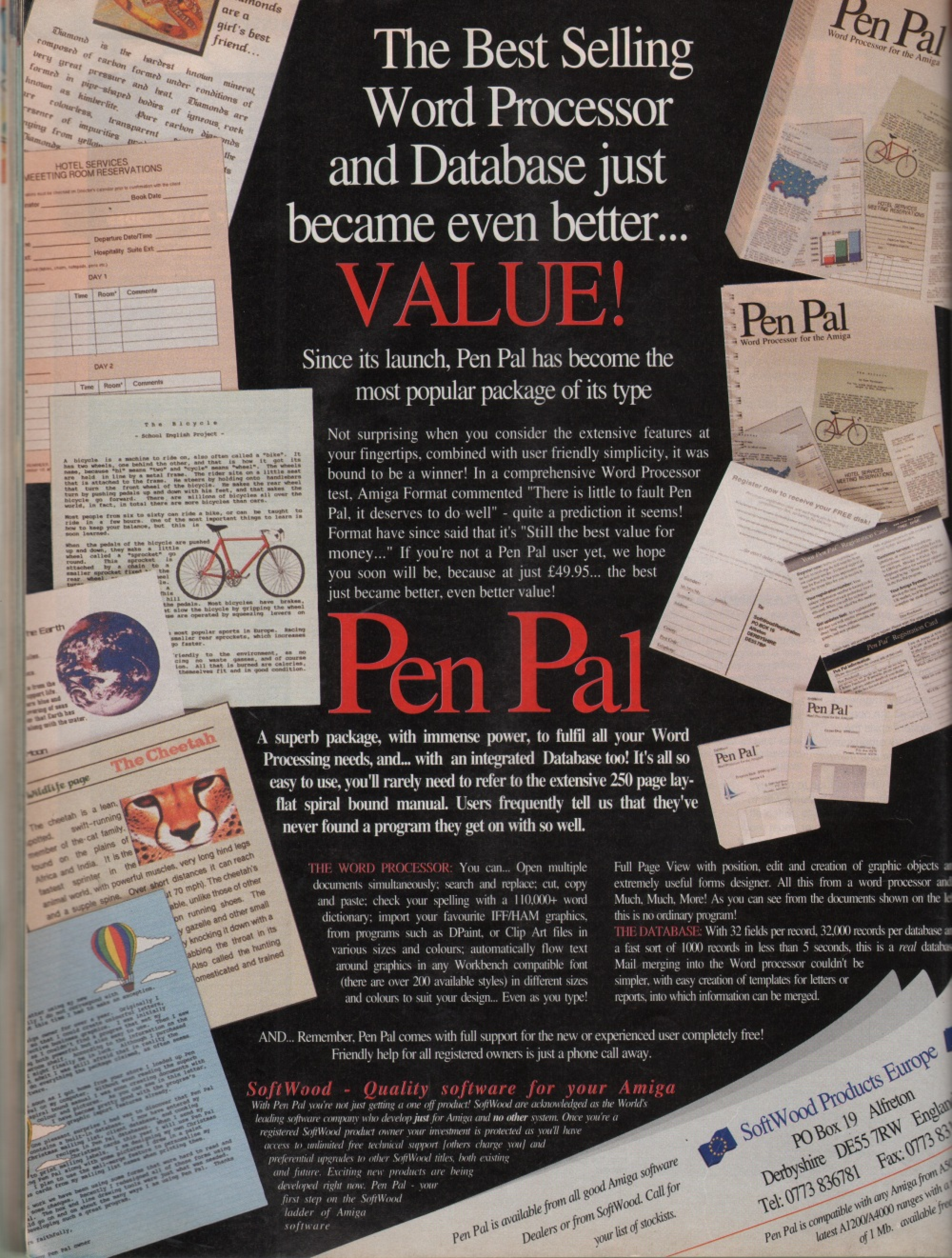
Intuition Library
0001 – Unknown gadget type
0002 – Create port, no memory
0003 – Item plane alloc, no memory
0004 – Sub alloc, no memory
0005 – Plane alloc, no memory
0006 – Item box top <RelZero
0007 – Open screen, no memory
0008 – Open screen, raster alloc, no memory
0009 – Open sys screen, unknown type
000A add SW gadgets, no memory
000B Open window, no memory
000C Bad Stare Return entering Intuition
000D – Bad message received by IDCMP
000E – Weird echo causing incomprehension
000F – Couldn't open the Console Device
0010 – Intuition skipped obtaining a sem
0011 – Intuition obtained a sem in bad order

Graphics Library
0000 – Graphics out of memory
0001 – MonitorSpec alloc, no memory
0006 – Long frame, no memory
0007 – short frame, no memory
0009 – Text, no memory for TmpRas
000A – BltBitMap, no memory
000B – regions, memory not available
0030 – Make V Por, no memory
000C – (GFX New Error)
000D – (GFX Free Error)
1234 – Emergency memory not available
0401 – Unsupported font description used

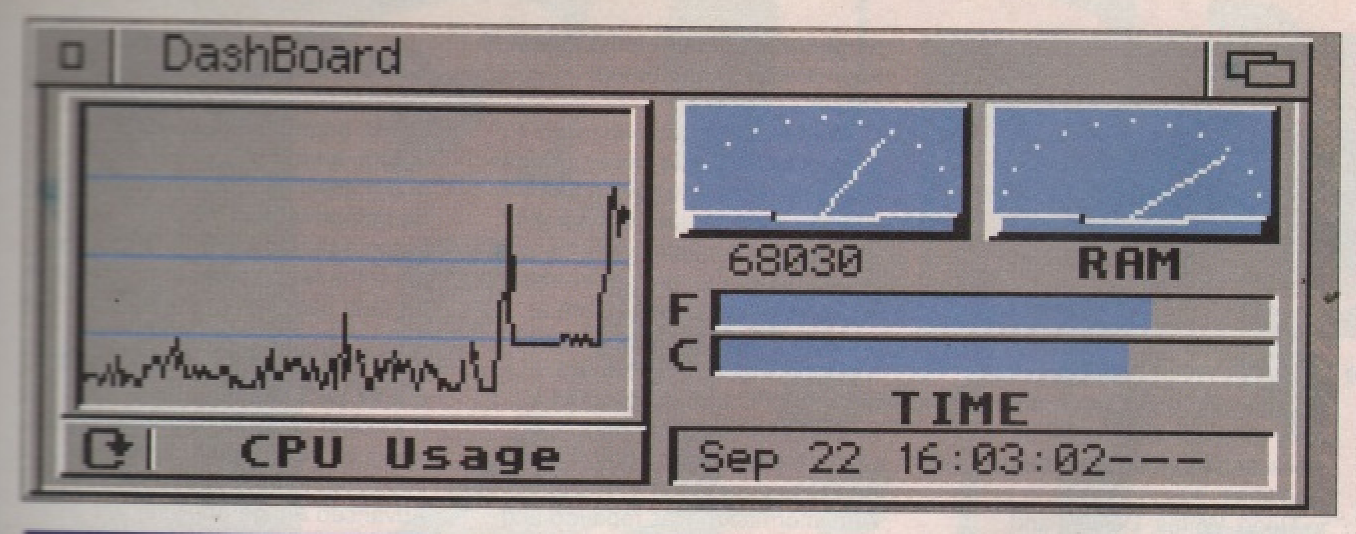
Workbench
0001 – No fonts
0001 – WB Bad Startup Msg1
0002 – WB Bad Startup Msg2
0003 – WB Bad IO Msg
0004 – WB Init Potion Alloc Drawer
0005 – WB Create WB Menus Create Menus1
0006 – WB Create WB Menus Create Menus2
0007 – WB Layout WB Menus Layout Menus
0008 – WB Add Tool Menu Item
000A – WB InitTimer
000B – WB Init Layer Demon
000C – WB Init WB Gels
000D – WB Init Screen and Windows1
000E – WB Init Screen and Windows2
000F – WB Init Screen and Windows3
0010 – WBMAlloc

Layers Library
0000 – Layers out of memory

Expansion Library



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Dashboard is a performance monitor, and thankfully, it doesn't measure users, just computers. Set the controls for the heart of the sun! Or something. What was in that Toffee Crisp, Tony?

JARGON BUSTERS

● **Partition.** A hard drive can be set up to operate as two or more separate drives, and each part is called a partition. The usual approach is to partition the drive into Work: and Workbench: sections.
● **Fast RAM/Chip RAM.** Chip RAM is the memory accessed by the CPU and the custom chips. Fast memory is only used by the CPU and is twice as fast.
● **PCMCIA.** A standard interface system for credit card sized add-ons. Usually memory cards, but now also hard drives.
● **Fragmentation.** The sub-dividing of memory (or disk) which occurs naturally through everyday use. Reorganising it will restore speed, although de-fragmenting memory requires a power down.
● **MMU.** Memory Management Unit – an optional part of some processors which can be used to perform tricks such as virtual memory, whereby the system memory is fooled into using a hard disk.
● **IDE.** The hard disk standard supported by the A4000 and A1200's integral interfaces.

Further, never perform a Low Level Format on an IDE drive. All IDE drives are already formatted in this way, and you may destroy the drive if you try to repeat the process. They do need AmigaDOS formatting (from the Workbench, like a normal floppy).

SNOOPDOS

If you can't get a program to run, because it just dumps you right back to the CLI prompt of Workbench, you need this PD program. *SnoopDos* hides in the background, watching to see what Amiga resources the errant program tries to use.

So, if, for example, you discover that the program tries to open a temp file on device dh3: you can add an ASSIGN to redirect it and regain control.

SnoopDos is an excellent program, which all serious Amiga owners should get immediately.

DASHBOARD

Performance monitors keep an eye on the idle time of the CPU – in other words, they keep a note of how busy it is. Speeds are usually listed as a percentage, with 100% meaning the processor is working flat out.

If you own *Directory Opus* you'll already have a monitor, but there are several more available. *DashBoard* is a cute little window with keeps you up to date with what's happening and where. Available memory, CPU idle time and usage are all displayed and updated in real time.

One example of when a program like this is useful is when sending data via MODEM. If your CPU usage goes to maximum, you know that your serial port is not as fast as your MODEM, and a faster processor could speed up the data flow.

DISK SALV v2

Amiga disks (both hard and floppy) occasionally have problems – and what do you do when you need that data urgently? In the old days we had *DiskDoctor*, a rather (let's say) basic program, which usually resulted in more problems than it was trying to solve (including that old favourite, 'where did that Lazarus disk come from?').

DiskSalv is different. For a start it was written by Commodore's own Dave Haynie, and secondly it works. If your disk has developed a fault due to switching the Amiga off too early, or sunspot activity, *DiskSalv* will root through it and get back as many files as possible.

Don't you love the pretty little pictures that all new Workbench software seems to come

DiskSalv v2 is all nice and Workbench2/3 friendly, so expect the standard requestors, the help button support and keyboard shortcuts.

An outstanding program that no Amiga user can afford to be without – order it immediately from your PD library.

After much disk-head banging, *DiskSalv* will eventually present a list of all the files it has managed to suck off the damaged disk.

DISK SPEED

When *SysInfo* falls down, *DiskSpeed* takes over. Widely regarded as the definite benchmark program, this is the one to use to test your IDE and SCSI drives to see how fast they really are. »

0001 – Freed free memory

Trackdisk Device
0001 – Calibrate: seek error
0002 – Delay: error on timer wait

Disk Resource
0001 – Get unit: already has a disk
0002 – Interrupt: no active unit

RamLib Library
0001 – Overlays are illegal for library segments

Console Device
0001 – Console can't open initial window

Timer Device
0001 – Bad request
0002 – Power supply: no 50/60 Hz ticks

Bootstrap
0001 – Boot code returned an error

Dos Library
0001 – No memory at startup
0002 – EndTask didn't
0003 – Qpkt failure
0004 – Unexpected packet received
0005 – Freevec failed
0006 – Disk block sequence error
0007 – Bitmap corrupt
0008 – Key already free
0009 – Invalid checksum
000A – Disk error
000B – Key out of range
000C – Bad overlay
000D – Invalid init packet for CLI/SHELL
000E – A filehandle was closed more than once

Alert Objects
8001 – ExecLib
8002 – GraphicsLib
8003 – LayersLib
8004 – Intuition
8005 – MathLib
8007 – DOSLib
8008 – RAMLib
8009 – IconLib
800A – ExpansionLib
800B – DiskfontLib
800C – UtilityLib
800D – KeyMapLib
8010 – AudioDev
8011 – ConsoleDev
8012 – GamePortDev
8013 – KeyboardDev
8014 – TrackDiskDev
8015 – TimerDev
8020 – CIARsrc
8021 – DiskRsrc
8022 – MiscRsrc
8030 – BootStrap
8031 – Workbench
8032 – Diskcopy
8033 – GadTools
8035 – Unknown

AMIGA 1200 AND 4000 SCREEN COLOURS

The system startup consists of a series of tests that run automatically whenever you turn on the computer. This test series resides permanently in the Kickstart ROM. It performs CPU and keyboard tests to verify basic system operations.

If the system finds an error before the screen display turns on, the screen will remain blank and the system halts. After the screen display turns on, the screen changes colour and the system halts if an error occurs. The screen colour helps you to identify the type of system problem. The screen colours should be interpreted as follows:

TEST STATUS	COLOUR	DESCRIPTION
Begin test	Black	Opening screen Initial hardware configuration tests passed Initial system software tests passed Final initialisation test passed
Failed test	Red	ROM error, reseat or replace Kickstart ROMS
	Green	CHIP RAM error
	Blue	Custom Chip(s) error
	Yellow	68000 detected error before software trapped it (software or hardware error)

```
MKSoft DiskSpeed 4.1 Copyright © 1989-91 MKSoft Development
Device:   projects:
Comments: DiskSpeed 4.1
File Create:         53 files/sec  |  CPU Available: 53%
File Open:          101 files/sec  |  CPU Available: 29%
Directory Scan:     398 files/sec  |  CPU Available: 7%
File Delete:        226 files/sec  |  CPU Available: 9%

Seek/Read:           88 seeks/sec  |  CPU Available: 68%

Testing with a 512 byte, MEMF_FAST, LONG-aligned buffer.
Create file:      35741 bytes/sec  |  CPU Available: 71%
Write to file:    33647 bytes/sec  |  CPU Available: 66%
*** Interrupted by user ***
Start Test        Stop Test        Save Results
```

For the dedicated speed demon, *DiskSpeed* will indicate exactly how fast your disks are spinning.

AMIGADOS ERROR CODES

These are the numbers displayed in CLI or Shell when you hit an error. For example, if you tried to save a file to a write-protected disk, you would get error number 214.

103 - No free store
105 - Task table full
114 - Bad template
115 - Bad number
116 - Required arg missing
117 - Key needs arg
118 - Too many args
119 - Unmatched quotes
120 - Line too long
121 - File no object
122 - Invalid resident library
201 - No default dir
202 - Object in use
203 - Object exists
204 - Dir not found
205 - Object no found
206 - Bad stream name
207 - Object too large
209 - Action not know
210 - Invalid component name
211 - Invalid lock
212 - Object wrong type
213 - Disk not validated
214 - Disk write protected
215 - Rename across devices
216 - Directory not empty
217 - Too many levels
218 - Device not mounted
219 - Seek error
220 - Comment too big
221 - Disk full
222 - Delete protected
223 - Write protected
224 - Read protected
225 - Not a DOS disk
226 - No disk
232 - No more entries

Added for 2.0

These are additional codes that are used on machines with 2.0 or higher Kickstarts.

233 - Is soft link
234 - Object linked
235 - Bad hunk
236 - Not implemented
240 - Record no locked
241 - Lock collision
242 - Lock timeout
243 - Unlock error
303 - Buffer overflow
304 - ***Break
305 - File not executable

» It looks complicated, and that's because it is. *DiskSpeed* performs many different tests on the drive to check its performance under different conditions.

Read, Writes, Deletes and Drawer creations are all tested for differing buffer sizes and DMA contentions. It can all be a bit too much for first time users!

If there is a problem with *DiskSpeed* it's that it's too good. It would be nice to end with a single index value to compare drives, rather than a table of a dozen or so results.

It's the best, but be warned – it's not easy to use.

NEWZAP

Speaking about programs which aren't easy to use, here's *NewZap* – possibly the most dangerous program around. *NewZap* is the latest in a long tradition of file sector editors – programs that examine the rawest of ways programs are stored on disk.

With *NewZap* you can move around inside a side stored on disk, changing bytes and saving the changes back to disk. Dangerous? You bet, but sometimes it's the only way that data can be resurrected.

For example, a friend with a portable PC got a corrupt floppy whilst he was visiting. He didn't have any PC utilities, but with a flourish I loaded it into my CrossDos'ed Amiga 4000, loaded the file and re-saved it. The checksum information was repaired and he stood amazed – convinced that he had made the wrong decision in not buying an Amiga.

```
NewZAP 3.3 : © 1986-1992 Dallas J. Hodgson
Filespec : c:execute                          Cursor pos :
Current sector :                              End of file :
Ending sector :                               Edit Mode :
UNDO   GOTO   SAVE
```

Danger, Will Robinson! Don't touch unless you now exactly what you are doing.

ENGINEERS DISK

This is a special compilation disk from 17-Bit Software PD library and it includes a large amount of small test programs designed to test various aspects of an Amiga.

Display tests, joystick and keyboard tests are included, as well as standard CPU and disk speed benchmarks.

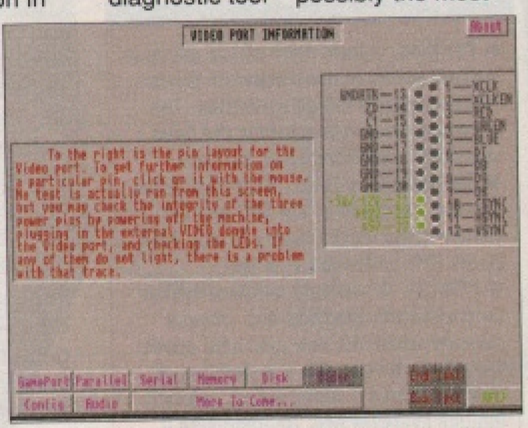
Unfortunately, the programs are all accessed via a hacker-type function key menu (and so they are all renamed to s0, s1, s11 and so on) but there's some useful software here.

CAUTION

When experimenting with these programs, especially the disk sector editors, always try to work with a copy of any important data. During this article I wiped at least one floppy disk by clicking the wrong button at the wrong time (*DiskSalv* got all the data back, but it took half a hour).

ADVANCED AMIGA ANALYSER

If you find yourself fixing Amigas on a regular basis, you'll certainly be interested to hear about the Advanced Amiga Analyser. It's a combined software and hardware diagnostic tool – possibly the most advanced available. It allows you to run many tests of the various chips and components, and lets you know exactly what's working and what's not. Watch for the full review in the next issue of CU AMIGA.



Amiga Analyser can be used to test all of the internal and external ports of your machine.

NEXT MONTH

In the second installment of our Maintenance feature we'll be visiting a commercial repair shop to see how they deal with serious Amiga faults and we'll also be looking at viruses to see how to prevent them from damaging your computer and software.

THANKS

Many thanks to Niki at 17 Bit software who provided us with many fine disks, and most of the software listed above. 17 Bit Software can be contacted on 0924 366982.

TOP SIX FAULTS

SYMPTOM-x—	LIKELY AREA OF FAULT	HINTS	LIKELY REPAIR PRICE	COMMENT
1. Nothing will load.	1. Drive mechanism faulty or controlling chips (the CIA or Gary).	1. Inserting the disks too roughly can knock the heads out of alignment. You can also do damage if you plug the external drive in while the machine's switched on.	1. £28.00-£71.99	1. Replacement drives between £54.99 and £71.99
2. The Amiga seems dead. The screen is black.	2. Too many faults too mention.	2. Anything can cause this ranging from using the computer during electrical storms to dropping it. This isn't as bad as it seems because 90% of faults like this can be fixed by replacing a single component.	2. £26.00 - £65.00	2. The Agnus is the most expensive chip in the Amiga. Perhaps now is a good time to upgrade-
3. Keyboard not working. Caps Lock light flashing.	3. Keyboard membrane or chips (£6570).	3. Spilling liquid into keyboard. Remember, your Amiga is not a coffee table!	3. £28.00 - £65.00	3. £65.00 = total replacement keyboard PLEASE NOTE Although the most likely causes for each fault are shown, there are many other possible causes, not to mention good old wear and tear, which affects the best of computers. It's also worth noting that the repair costs quoted are just the ones used by HCS
4. No sound or sound is distorted.	4. Modulator, Paula, Power supply.	4. Be careful when plugging your phone leads in.	4. £26.00 - £42.50	
5. Printer or sound sampler playing up.	5. Parallel port (either of the CIA's)	5. Connecting the printer while the computer is switched on is a definite no, no.	5. £26.00 - £42.50	
6.Modem or MIDI interface playing up.	6.Serial port(1488, 1489, Paula, CIA).	6.Don't connect a modem whilst the power isswithed on.	6 £26.00-£48.50	



BUBBA 'N' STIX
ZOO
00000
00000
005700
Our goofy hero and his friend - an intelligent alien stick - have crash landed on a weird planet after being captured by an alien spacecraft. In order to get back to Earth, Bubba must use his stick in a variety of different ways to solve puzzles, overcome adversaries and foil the comedic attempts of his kidnapper to recapture him in this horizontally scrolling puzzle.
Available on Amiga (1 meg only)
Screen shots taken from Amiga version
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WARNING

Due to the exchange rate, or manufacturer's changes or due to current RAM shortage, some prices may alter, either up or down, during the several weeks between going to press and the end of the month of issue. We would ask that, prices be confirmed by telephone before ordering.

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A600 SD 1MB	-	169.90	184.90	12 months at home	Extra 1MB £35 • 2Mb PCMCIA £109 • 4MB PCMCIA £169 • Romsharer £45
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A600 HD 20		259.99	274.99		
EPIC PACK PLUS 40	Epic, Rome, Myth, Trivial Pursuit, Amiga Text, Deluxe Paint III*, 700 clip art set	274.90	289.90		
EPIC PACK PLUS 64		339.99	404.99		
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A600 HD 80	-	365.99	379.99	12 months return base	
120		415.99	429.99		
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CDTV MULTI MEDIA	Audio Discs/CD Player, Keyb'd, Fdrive, Mouse, Remote Controller, Caddy, Welcome Disc, Fish Disc	229.99	244.99		Brickette £45
CBM 1084 SD	+ Leads	189.99		1 year	PiP Monitor to TV Converter – £99
CBM 1940	Leads. Ideal for AGA	264.99		1 year	
Philips 8833 II	Leads. T & Swivel £10	209.99		1 year at home	
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A4000/ 30 & 40

A4000/30: AGA Chip Set + 68030 processor, 68882 25/50 MHz co-processor option, 256,000 colours from 16.6M, scan doubling for flicker free display, Mouse, Amiga 3.5"/1.76 MB 3.5" drive, Hard Drive as below, Amiga DOS 3.0 system and utilities, **Next day on-site warranty**
A4000/40: As above, but featuring the blistering 68040 processor, with full floating point facilities **NOT** EC version.

TRADE IN AVAILABLE

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80	-	989	1889
	25	1099	
	50	1239	
120	-	1089	1969
	25	1199	
	50	1329	
160	-	1129	
214	-	1159	2089
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	25	1299	
	50	1399	
340	-	1299	2299
	25	1419	
	50	1529	
540	-	1629	2679
	25	1749	
	50	1869	

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2 + 4 MB version comes with 2MB chip RAM + one 4MB chip of fast RAM, for on-board expansion to 16MB. We do not fit two x 2MB chips of fast RAM, which gives on-board expansion of only 8MB.

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A1200

1200 2MB	279
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Paradroid does worse, if Basic basically isn't you, exercise your options and get real value for money from Hobbyte

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"THE BUG"	The only joystick ever to be given a Gold rating 92% AF, positive single-handed action, small and lovely!
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Or see packs ac
Thunderbirds (7y
F1 Grand Prix - 9
Silly Putty - 90%+ la
Elf/Toki/Puzznic (cou
Paperboy II
Hunt for Red Oc
Colossus Chess
Challenge Go
Battleships classic bo
Graeme Souness
Neighbour
Frankenstein
Captain Pla
Silkworm Helicopt
Edd the Duc
Stack Up
Lemmings 92
Round the Be
Continental Circus - 8
92% AAG
World Cric
Bart Simps
Spiderman/Cptn A
Ice Hocke
Xenon - C+VG Game
Blade Warrior - A Pow
superb revi
Toobin Rapid
AWARD WIN
Space Ace, Kick Off, Pipe
(counts as

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*DPIII needs 2MB for animation

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OPAL VISION (for 3000/4000)

24 bit board v2+ Opal Paint, Opal Presents, Opal Hotkey, Opal AnimMATE	589.99
ALSO WITH IMAGINE SOFTWARE	£649.99

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Brickette CDTV Joystick adapt.	39.99	CDTV Keyboard	54.99
10 Blank DS/DD discs in box	4.99	50 Blank DS/DD discs	17.99
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PC1204 4MB exp + 68882 25MHz	269.99	PC1204 4MB exp-clock	209.99
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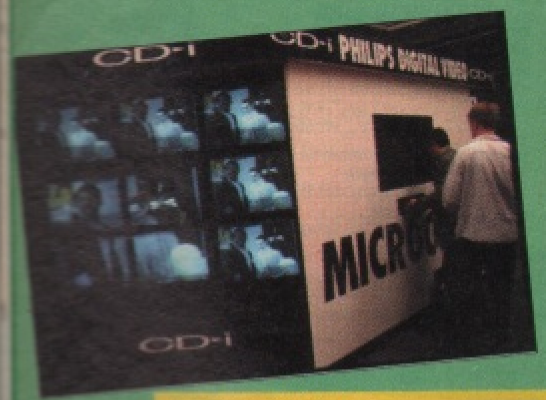
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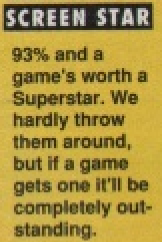
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Jon Sloan brings you a report on Europe's biggest computer entertainment trade show.



FIRST AUTUMN EUROPEAN COMPUTER

The European Computer Trade Show is a twice yearly gathering of all the top nobs in the software business. They converge in a secret location somewhere in north London to show off their new console and floppy games and try to nab each others ideas. It's possible that licensing and distribution deals are set up and some business is actually conducted. But I doubt it. In fact, the real reason for this gathering is as an excuse to engage in a wild orgy of free lunches, booze and crazy rock 'n' roll parties! Being above such excesses [*And if you believe that you'll believe anything – Ed.*] I managed to stay sober long enough to cram in hundreds of meetings with top software houses, so I could bring you the low down on what's hot and what's rot.

As this was the second show this year many of the products on demonstration had already been premiered in the Spring. We brought you an extensive report on that event in our May issue so I won't recover old ground again. Many of the products seen then are still in development, I'm afraid, with one or two having undergone major revamps. However, many companies at this ECTS still managed to display some stunning never-before-seen games. So, here's a special First Imps look at the games you'll all be playing before too long.

BODY BLOWS GALACTIC
TEAM 17

THE GAMEPLAY: If you've played the first game then you'll know what this is all about. This time the scenario has been shifted into space with Junior and Dan, two guys from BB1, taking part in one-to-one fights with creatures from seven other alien races. There's the hot-headed Flame, who shoots jets of, well... flame, a character called Discette and a Raptor ridden by a small elf!
WHAT'S NEW: The guys at Team 17 usually have a few surprises up their sleeves, so this is bound to be more than just another beat 'em up. The moves are all new, the sound and backdrops have been improved and the speed will be at least as fast as the enhanced version of the original.
BEHIND THE SCENES: Team 17 have firmly put themselves behind the new 32-bit Amigas and will be producing a special A1200 version to be released alongside the standard game.
FIRST IMPRESSIONS: The first *Body Blows* sold phenomenally well and this sequel is sure to do similar kinds of business for the boys from Wakefield. With the introduction of an alien element they will no longer be restricted to producing pseudo-realistic martial arts moves. The gameplay, though still in early stages, is already fast and furious. It will be interesting to see though how it fares next to Renegade's new baby

SURF NINJAS
FLAIR SOFTWARE



THE GAMEPLAY: Based on the soon to released film of the same name, *Ninjas* is another arcade adventure using puzzles as a block to level progression. You take the role of Johnny McQuinn, heir to the throne of a South Sea Island. Johnny's family moved to California when he was young so he's turned out to be a cool surfer dude, only now he's expected to return to his homeland to take the Crown. To stop him returning a band of Tiger Ninjas have been dispatched to deal with him. It's up to you to fight your way out of California and on to the island of Patu-San.
WHAT'S NEW: Ninja games have more or less had their 15 minutes of fame on the Amiga with the market flooded by beat 'em ups. This game, however, is closer in style to the *Last Ninja* series which mixed both fight action and puzzle solving. Here the programmers have gone for the more traditional side view to the action.
BEHIND THE SCENES: The film stars Leslie Nielson, of Police Squad and Naked Gun fame, and is produced by New Line Cinema who're responsible for the Ninja Turtle films. The game then should feature plenty of beat 'em up action with a humorous twist.
FIRST IMPRESSIONS: I've always liked the *Last Ninja* series so it should be fun playing a similar game from a different perspective. The graphics, though, seem poor.

IMPRESSIONS

TRADE SHOW

SURVIVAL
KOMPART UK



THE GAMEPLAY: Set nearly 200 years into the future you get to control a small group of people who have recently emerged from a nuclear bomb shelter. The world has been devastated by war so it's your job to help these people rebuild civilisation from the remnants of a wrecked planet. It's a point 'n' click sim for AGA machines only. You'll have various resources at your disposal and you'll have to utilise them to construct buildings, transport, new technology and, of course, defences against the roaming bands of hostile mutants.
WHAT'S NEW: The scenario may be new but the game concept certainly isn't. With various map screens depicting colonies, population, etc and a range of icons used to control the people and resources it's all been seen before in games such as *Sim City*, *Utopia* and *Railroad Tycoon*. Of course, all those games were very successful and there's no reason to suppose that *Survival* will be any different.
BEHIND THE SCENES: Another Interactivision product, *Survival* sees them moving into the world of strategy sims. The game will only run on AGA machines with at least 2Mb of memory so we should be in for visual treat.
FIRST IMPRESSIONS: *Survival* is scheduled for a mid-December release so has not even begun to be transfered onto an Amiga. The screenshots are from the PC version but should not degrade at all when converted. Although, we have seen other sims like this before the scenario may serve to capture the imagination of many.

NAUGHTY ONES
KOMPART UK



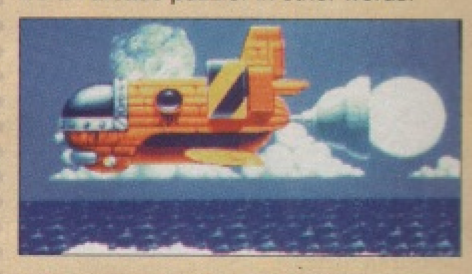
THE GAMEPLAY: Take control of a naughty schoolboy as he battles through various fantasy worlds. The game is the usual platform fare – precarious leaps, nasty enemies, lots of goodies to collect and the normal hidden bonus rooms. The whole thing is set across a backdrop of five imaginary locations, with over 50 screens of action containing psychopathic robots, undead mummies and out-of-control batteries! There'll be a one-or two-player option with two players competing against each other to collect the toys and sweets scattered around the screen.
WHAT'S NEW: Again, here's another game with little in the way of innovation. Whilst the graphics quality is high and the playability may be okay there's no real state-of-the-art programming evident here.
BEHIND THE SCENES: The game's being coded by Interactivision, the Danish coders who are just starting to make an impression on the UK Amiga scene. Naughty Ones is one of four titles that they're set to release.
FIRST IMPRESSIONS: At the moment the game runs fairly slowly and there doesn't appear to be too many enemies to avoid. Still, it is at an early stage and Interactivision may be changing one or two elements before release. It is unlikely, however, that this game will stun anyone.

BRIAN THE LION
PSYGNOSIS

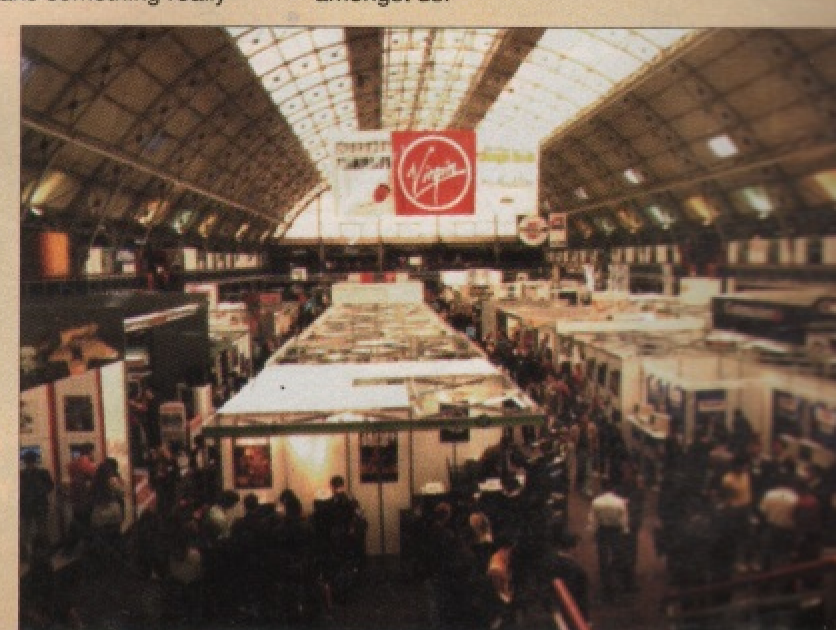
THE GAMEPLAY: Well, he doesn't have a spiky back and there's no evidence of a skinny plumber for a brother, but *Brian the Lion* does have a neat quiff. And, it's claimed that he will become the Amiga's answer to those console greats. Well it does have all the ingredients to make it big. There's an absurd plot which equates into Brian running around over 30 levels of baddie infested platforms. And there'll be the usual items to collect, like Splendid Speed, Really Raj Roar and Excellent Extra Life as well as the obligatory endless stream of adversaries to bash.
WHAT'S NEW: In terms of genre and plot we've seen it all before. However, this game has one or two tricks hidden up its sleeves. The action breezes along at a true 50fps and contains some multi-layered parallax scrolling to give it a true console feel.
BEHIND THE SCENES: Despite the hackneyed plot and over worked genre, *Brian the Lion* actually utilises some amazing new programming features. For instance, most of the game runs in 16 colour but there are sections where the Amiga's copper colour splitting abilities are tested to display 182 colours on screen. Perhaps most impressive of all though is the way the game mimics some of the SNES's amazing Mode 7 effects – zooming, de-res, curved perspective effects and even rotation. All this from the team that brought us *Ballistix*, *Awesome* and the *Shadow of the Beast* series: Reflections.
FIRST IMPRESSIONS: This genre has been done to death on all formats so it'll take something really impressive to grab an average player's attention. *Brian the Lion* may have that something. Watch out Sonic and Mario, there's a new star on the prowl.

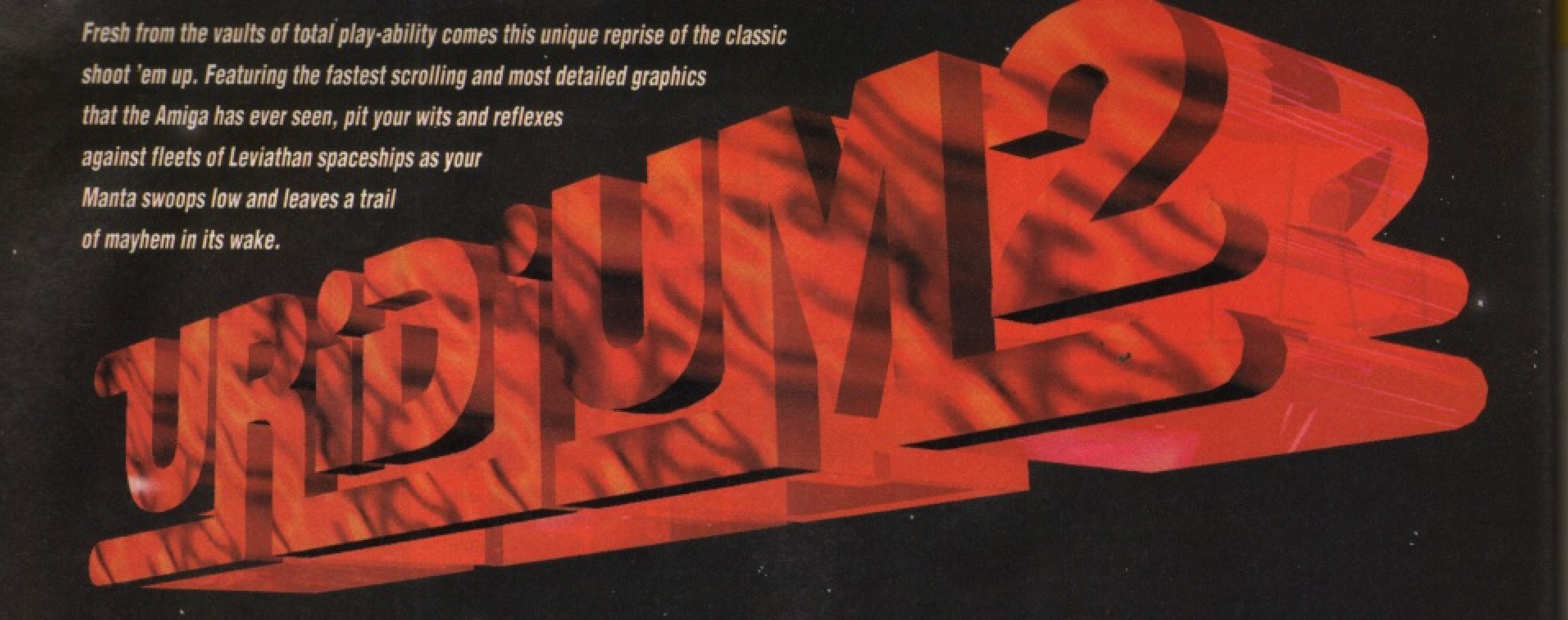
PUGGSY
PSYGNOSIS

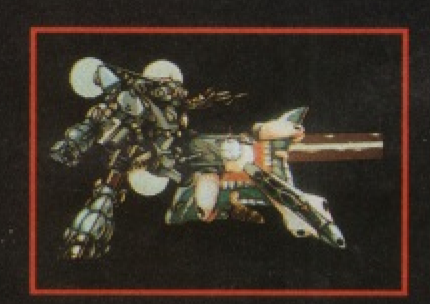
THE GAMEPLAY: Puggsy is a weird-looking alien who's crash landed on Earth and lost his ship. The object of the game is to guide him through a hostile landscape using the objects he finds there to help him retrieve his space ship. There are 17 environments to explore each with several locations within them. On each of these levels there will be at least 20 environment-interactive objects which Puggsy can use. So, it's an arcade puzzler in other words.

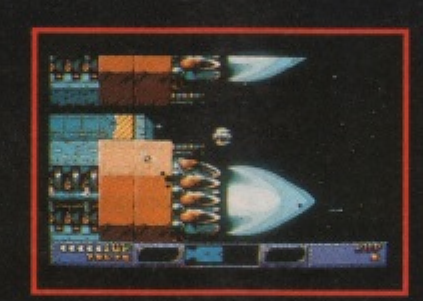


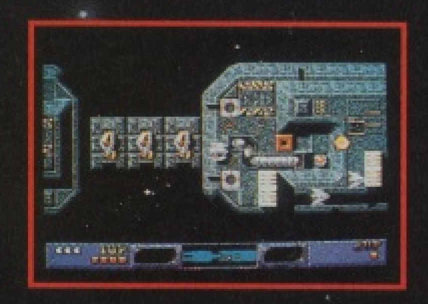
WHAT'S NEW: Psygnosis are making much of the fact that *Puggsy* is a family game. It's relatively non-violent and will even include a special level designed with very young children in mind. It's received rave reviews from the Megadrive mags but then there aren't many games of this type on that system.
BEHIND THE SCENES: Another major claim from Psygnosis is that *Puggsy* incorporates a unique Total Object Interaction (TOI) system. What this means is that virtually every object on screen will interact in some way with the others – just like real life.
FIRST IMPRESSIONS: The gameplay in *Puggsy* is quite smooth and the control system very easy to learn. *Puggsy*'s TOI system could hold some novelty value for older players but I suspect that this is going to be one for the younger ones amongst us.











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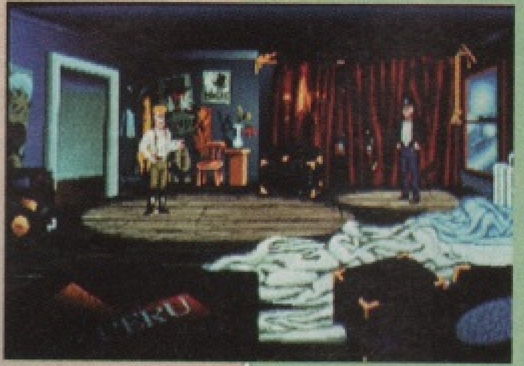
GRAFTGOLD
Creative Software

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FLIGHT OF THE AMAZON QUEEN

RENEGADE



THE GAMEPLAY: It seems that adventure fans are in for a treat early in '94 with this point 'n' click adventure from Binary Illusions. Set in the deep dark South American jungles you play Joe King, a pilot for hire who has just crash landed in that unforgiving wilderness. To make matters worse your cargo on this trip is Faye Russel, a big Hollywood movie star, and she's none too pleased about being dumped in the middle of nowhere. Your task is to guide Faye and Joe out of the jungles and save the world from the dastardly fiend you encounter there. Shades of *Indy Jones* methinks!

WHAT'S NEW: *Amazon* is promised to be a game that has a strong plot and challenging problems. Nothing too new there. However, Renegade also claim that the game will feature very flexible character interaction so you won't be limited to a set series of questions and answers.

BEHIND THE SCENES: Binary Illusions are a new Australian-based software company and this game marks their first venture into game coding. They are, however, highly experienced writers and artists having spent many years in the independent comics scene in Oz. With that kind of background *Amazon* should certainly include both a strong story and detailed graphic design.

FIRST IMPRESSIONS: At the moment we've seen little of the game apart from various still screens. It's obvious though that it'll be in the same vein as *Monkey Island* and *Indy Jones*, both of which were huge. As Renegade are one of the canniest publishers around it's extremely unlikely that they would sign up a duff game. I predict that this could be the smash hit for Spring '94.

GLOBAL DOMINATION

IMPRESSIONS



THE GAMEPLAY: No, *Global Domination* isn't some kind of subversive sexual activity [*Shame – Ed.*]. Rather, it's the latest war gaming simulation from Impressions. Play against one of four computer opponents, each with their own unique style of leadership, like Genghis Khan or Abraham Lincoln. Or, for more fun, play against your friends using a modem link up. The idea is to invade countries, strip them of their resources, build bigger armies and better weapons, then invade somewhere else. Just like any good fascist dictator.

WHAT'S NEW: *Global Domination* bears a close resemblance to that old board game, *Risk*, which was converted pretty poorly some time ago. This version, though, is much more detailed with players having spies, diplomats and subversive agents at his disposal. Another new feature is the ability to zoom into large scale battles and take direct control of the vehicles and weapons.

BEHIND THE SCENES: The development team at Impressions spent months researching the battles carried out by the historical figures you'll be fighting in an attempt to analyse their strategies. Their general tactics were then programmed in to the game and updated to take account of the modern weaponry that's available.

FIRST IMPRESSIONS: Strategy specialists Impressions are sure to, well, impress with this simulation of world conquest. The thinkers out there will love the large-scale strategic play and the alliance aspects, whilst those with a more murderous bent will want to delve into the real-time battle sequences and nuke their favourite cities. I loved playing *Risk* with my mates and beating the tar out of them so I can't wait to get hold of a copy of this sim.

DENNIS

OCEAN

THE GAMEPLAY: Based on the John Hughes film, Dennis is the Americanised version of The Beano's very own Dennis the Menace. The gameplay will be the usual platform fare with Dennis running around causing all sorts of mischief and generally trying to annoy Mr Wilson, his grumpy neighbour. Trying to impress the old fogey Dennis has volunteered to find his missing coin collection which has, spookily, been scattered across loads of locations strewn with platforms...



WHAT'S NEW: There's no real innovation in this game with the usual levels, baddies and end of level guardians. One interesting aspect though is that Dennis' weapons don't work equally well on all baddies so you'll have to experiment to find which one works best.

BEHIND THE SCENES: As the official license of the film the developers had excellent access to various production notes and effects used in the big screen version. It's planned to include sampled speech and effects from the film in the game, including Dennis' famous 'Mr Wilson' shout.

FIRST IMPRESSIONS: The initial programming is already starting to look quite polished and the unusual baddies and guardians, like the hopping mad basketball coach, should serve to lift *Dennis* above the normal platformer standard. I'm not a fan of the film or the American cartoon series but the computer game looks set to keep platform fans hooked for a while.

AND THE REST...

With more games than space, we're only able to detail a few that caught our eye. So, here's a brief company by company run through on some of the other games on show.

CODEMASTERS

The Codies are continuing their thrust into the console market so there's not too many Amiga games on the cards here. *Micro Machines* is reviewed later in this issue but also due soon is *Cosmic Spacehead*, a 50s style arcade adventure. Part of the game will be a typical side on platform jumper with enemies to avoid and pick ups to collect. The rest of the game will centre around a graphic adventure with Cosmic trying to reach Earth to prove it exists. Due for release any time now we'll bring you a full review soon.

DAZE MARKETING

Riding in on the heels of *The Patrician*'s success comes *Elizabeth I*. Also coded by Ascon, it's essentially the same game concept set in Elizabethan England. You play the part of a merchant adventurer complete with sturdy ship. The idea is to trade and raid and generally curry favour with the Queen. If you love watching those old Errol Flynn movies this game'll give you the chance to act them out. Another sim set for a November release is *Boot!*. It's a footie management game with all the usual features.

IMPRESSIONS



With eight releases scheduled before Christmas Impressions are in for a busy time. Repeat showings from Spring ECTS were *Air Force Commander*, *Rules of Engagement 2*, and *When Two Worlds War* plus three older titles out on budget. Also on show was *Global Domination* (see main copy), *The Blue & The Gray*, an American civil war sim, and *Detroit*, a sim set in the biggest car production town in the World.

KRISALIS

With only one brand new product on show you'd be forgiven for thinking that Krisalis are resting on their laurels. Not so. They're currently beavering away on A1200 and CD32 versions of their two recent hits, *Soccer Kid* and *Sabre Team*. Apart from the obvious colour enhancements to both games *Sabre Team* will feature new animated sequences, digitised speech and two extra levels.

On the new games front, *Manchester United Premier League Champions* (*MUPLC*) is Krisalis' third Man Utd license game. In a complete departure from its predecessors MUPLC will utilise the familiar *Goal!* and *Sensi Soccer* viewpoint. To give it a little novelty the programmers have included a Tactigrid™ formation planner. This allows you to predetermine each players position with more detail than the usual 4-3-3 formation.

MINDSCAPE

Conversions of old 'classics' seem to be the order of the day at the moment so it's no surprise that Mindscape have jumped on the bandwagon. Up for CD32 transformation are *D/Generation* and the *TV Sports* series. The former game is an isometric arcade-adventure with you playing a courier trapped in a building full of genetically engineered bio-weapons out to get you. It's one of my all-time faves so I'm looking forward to an enhanced version. The TV Sports games are video-derived graphic sports sims of boxing and baseball so should fare well when enhanced.

PSYGNOSIS

Probably the most prolific Amiga publisher at the show was Psygnosis. They've got over 13 titles lined up for pre-Christmas release. Getting a first airing at the show was *Wiz 'n' Liz* and *Puggsy*, both covered in the main copy. Also on show was *Bob's Bad Day*, a weird screen rotating coin collection game; *Globdule*, a platformer starring a small lump of slime; *Benefactor*, a sort of *Flashback* puzzle adventure; *Perihelion*, a classic-style RPG; *Magician's Castle*, a platformer with excellent cartoon graphics; *Brian the Lion*, yet more platform antics; *G2*, an *Obitus* inspired adventure; and *Codename Hellfire*, the sequel to *Armourgeddon*. Oh, and what Psygnosis Christmas schedule would be complete without another *Lemmings* game? This time we've got 40 levels of Xmas action complete with the appropriate carols and snow.



RENEGADE

More CD32 and A1200 conversions are on their way from Renegade. We're likely to see *Sensible Soccer* first with more teams, new Cup Championships and extra crowd sounds. Next we'll have *The Chaos Engine* which'll include improved graphics and sound. Both games should retail at a sub-£30 price which is great value for money for 32-bit games.

VIRGIN

Top publishers Virgin had many cool licenses on show including the much-awaited *Mortal Kombat* and *Terminator 2 Arcade Game*, never mind some originals in the form of *Cannon Fodder* and *Beneath A Steel Sky*. We've covered them all in greater detail in earlier issues.

In early development is the Amiga version of *Cool Spot*, a recent Megadrive platform hit. It tells the tale of that red dot that used to be on cans of Seven-Up. He's been magically transformed into a living, breathing, cool spot but, alas, all his brothers and sisters have been captured so he's got to go rescue them. What tosh! Still, the game turned out to be a hit on the Megadrive as it's actually quite a neat platformer. The Amiga version should be ready for Crimbo but don't count your chickens just yet.

ELFMANIA

RENEGADE

Following in the footsteps of Team 17, Terramarque are a gang of five Fins from the demo scene who have just turned into professional game developers. This is to be their first release, and as you can probably tell from the shot here, it's gonna be big.

Here's the gen. You get to choose from six characters, each of which has his or her own specific location. Two are still being worked on, but the four that are already in the game are a bit different from the usual kind of thing. Okay, so the blubbery sumo wrestler does bear a rather suspicious resemblance to Eddie Honda out of *Street Fighter II*, but the others are more original.

There's the King, who fights his battles with the help of a massive sledgehammer. It's not cricket, but it's a lot more effective than the Queensbury Rules. He's not bad for an old bloke actually, and although the combined weights of his gut and hammer slow him down, you wouldn't want to be on the receiving end when he goes into one. Every good beat 'em up has a glamourous female in it these days, and this is where the Elf bit of *Elfmania* comes in. The sprightly young Spock-eared girl can't match the others in strength, but makes up for it with a lightning turn of speed. Then there's the Sinbad look-a-like with his glinting blade. No, not Sinbad out of Brookside (that's the sumo wrestler), this is your real McCoy Arabian hero – complete with baggy pyjama trousers and curly slippers.

Stavros Fasoulas is the main man behind the coding – if his name sounds familiar, it's because he was the genius behind the classic (not to mention exceedingly brilliant) C64 shoot 'em ups *Sanxion* and *Delta*. Once again he's pushing back the boundaries of what's possible on the Amiga, so you can expect all those coin-op-style flourishes, such as parallax scrolling floors, animated backgrounds, proper 50 frames per second animation (for silky smooth graphics), and loads more on top.





GENESIS

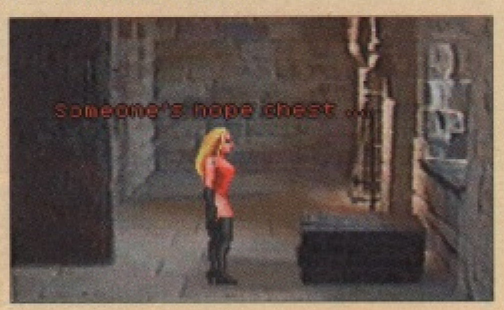
FLAIR SOFTWARE

THE GAMEPLAY: In *Genesis* you take the role of a beautiful leggy blonde time traveller in Flair's first point 'n' click graphic adventure. Our heroine has travelled back in time to the Jurassic period in a quest for some magical jewels. In order to find the jewels she's going to have to solve her way out of that time, travel through the mediaeval period before zooming off into a fantastic future environment.

WHAT'S NEW: There have been sexy heroines before but this lady takes the biscuit. As you can see from the screenshots she's not too unattractive. The sad news is that she may undergo a transformation before final release. Sexism aside, this is one of the first adventures that merges a decent photo-realistic background with an animated character.

BEHIND THE SCENES: The programmers have utilised the latest technology to capture and merge background, foreground and animated movement to give the screen a feeling of depth and realism. Together with the graphics the game will include a special score in the CD32 version.

FIRST IMPRESSIONS: The Amiga scene has been gasping for a decent animated adventure for some time. This game could be the one that finally brings Amiga FRPGs closer to their more detailed PC cousins. Look out for a review soon.





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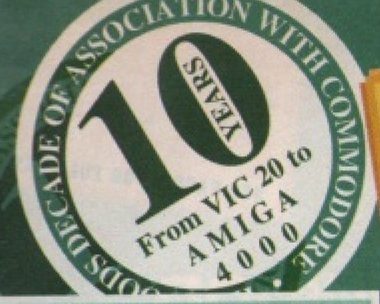
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ELITE 2

Well, it looks like dreams can come true, as CU's fairy godmother – Slingsby – grants Tony Dillon his life-long wish of having the first look at the longest-awaited sequel of the decade.



If I had to pick my all-time favourite game, it would have to be *Elite*. I bought that particular title the very day it came out on the Spectrum and spent the best part of the next year playing it. When I moved up to the Commodore 64, I bought it for that system. And when I first got an Amiga, it was the first game I bought. Nine years later and I've finally got my sticky little mitts on the sequel. It might have taken an age and a half to arrive, but *Frontier – Elite 2* is finally finished and in the shops, and it's an absolute corker!

RUMOUR CORNER

There have been a million rumours concerning what would eventually be in *Elite 2*. Tales of planets exploding, moon landings and two-way conversation with intelligent opposing pirate captains have been running riot. A lot of the rumours were at least partly correct. You can land on planets. There is some contact with other ships. The rumours of exploding planets bit, though, was greatly exaggerated.

New, more interesting craft join original *Elite* ships in space stations dotted all over the galaxy.

Stations aren't the only things that hang around in space. What about Space Cities!

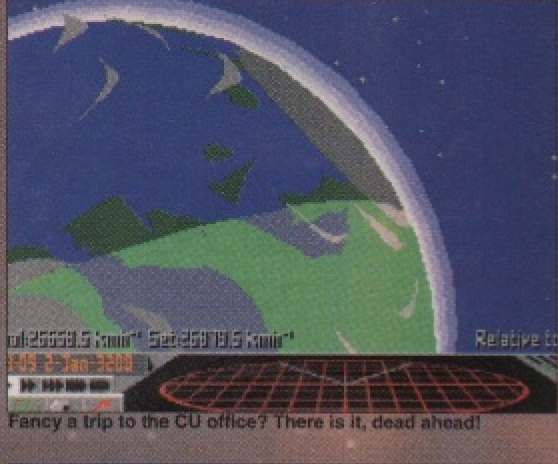
HOW BIG?!?

Elite had eight galaxies, with approximately 2000 planets strewn across them. *Frontier* has only the one galaxy, but before you start sighing, check out the size of it. For a start it contains around 211 star systems (that's '2' with eleven zeros, or 200,000,000,000 if you really want to be gobsmacked) and each system can have up to twenty planets. Even if, on average, each system only had ten planets, there would still be two billion planets for you to visit! Only about thirty thousand of the planets are inhabited or inhabitable, but that doesn't stop you pushing back the frontiers and checking out the rest of our galaxy. Yes, that is where the name of the game comes from!

Enough of rumours, though. Time to answer the big question – what is *Frontier* actually like? Well, it isn't a game, that's for sure. Oddly enough, there seems to be very little in the way of game plot other than the political backdrop to the game. As far as you're concerned, your grandfather has died leaving you a small amount of money and a semi-well prepared ship. After that, you're on your own to do whatever you want. It might sound a little pointless at first, but, in fact, this leaves room for all sorts of adventures and a game that you'll be playing for a lot longer than the five years it took to program!

DO WHAT YOU LIKE

In *Elite*, your main aim was to attain an Elite rating, gained through a combination of trading, destroying other craft and generally excelling in all fields of the game. Not much of an aim, you'll agree, but it was this freedom that made the game so popular – a fact that David Braben knows only too well, which is why *Frontier* is more of the same. Everything that was in *Elite* is in here, so you can play it in exactly the same way as the original, but there is so much more to the game that you'd be wasting a lot of the genius that went into creating it if you only followed that route. What your aims are is completely up to you. You could, if you wanted, visit every single planet and moon in the game, but this would take a few months of solid gameplay – even Braben himself hasn't seen every planet in the game! You could aim to become the highest-ranking officer in either of the two military organisations, become the most successful miner in the galaxy, provide the most efficient taxi service ever, be the most notorious pirate in the western spiral arm, the most ruthless assassin, the hottest stock »



Fancy a trip to the CU office? There is it, dead ahead!



A Cobra approaching Earth. Check out the surface detail!



» market trader...the list is seemingly endless. In a sense, *Frontier* is almost a simulation of a completely new life. True virtual reality, if you like!

Elite fans will be happy to know that the old Elite rating is still in the game, but will be amazed at all the other ratings you can collect. As before, you have a criminal record with the galactic police. Do something wrong, and you'll be a wanted person, so keep your nose clean. There are two new ratings for you to aim for, and to explain these I'll need to give you a little background info. The galaxy is in a state of cold war, between the two superpowers of the Federation and the Empire. Both have spies, soldiers and assassins all over the galaxy, and if you should do any work for either, you too will receive a rank. If you want to, you can progress through the ranks of either, but not both at the same time. As your rank increases, so will the level of missions that you are offered, giving you more and more money and generally helping you to reach the status of God.

WHAT'S NEXT?

What happens next in the *Elite* saga is in the hands of David Braben himself. Firstly, and most likely, there could be add on disks, as well as new versions of the game, including an *Elite* war simulation and a serial link version (due to the time advance facility in *Frontier*, a serial link option wasn't viable). There could also be an enhanced A1200 version, as David strongly believes that the game could run as fast as the A4000 if changed for the A1200. A CD32 version could also be in the offing, which would be more like the PC version, complete with full texture mapping on the ships and space stations. We wait with baited breath.

MISSION YOU ALREADY!

But hold on a minute, did I mention missions? In the original *Elite*, there were only a couple of missions to be done, and if you managed to get sent on either of them, you were lucky. *Frontier* has over 70 different types of missions, and each can be varied in hundreds of different ways. You are offered missions wherever you go, thanks to the handy bulletin board found on every single space station and base. Whenever you land, you can read through the messages which are scrawled there, where some people will be asking for passage, some will be looking for information and the military will be asking for recruits. To begin with, all you will be asked to do is carry a message from one base to another. Do this well, and you'll be offered bigger and better missions, until the military start asking you to kill people, destroy enemy bases and start spying for them. Remember, this is only one route through the game.

Of course, you can't be perfect all the time, and messing up on any kind of mission costs something. In the military, you might be demoted, or they'll just loose faith in you. This isn't too bad, as you can quickly get back in their confidence. The worst thing that can happen is that your



The view from Merlin shows off the detail of the crafts perfectly.

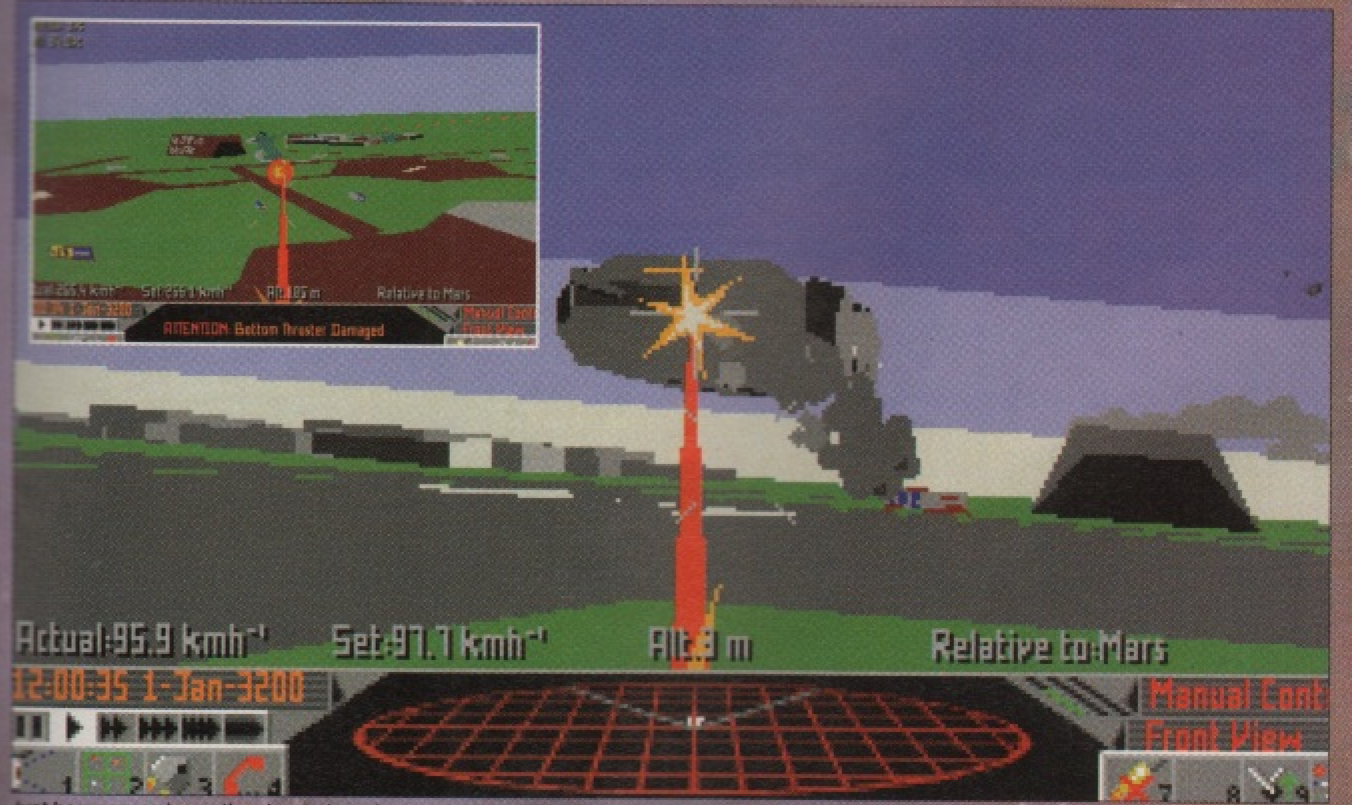


Just to give you an idea about the size of the space station, here's an Eagle entering a dock.


If a picture tells a thousand words, then this guy is dead, dead, dead, dead...



A star map close up, showing the most well known trade routes in purple.



Just because you're on the planet, doesn't mean you're safe! Here are two frames from a devastating attack on the terraformed Mars.

TRADING MAD!

The International and Interplanetary Stock Exchanges are huge and complicated affairs in *Frontier*, far more so that the original *Elite*. Prices fluctuate rapidly during the course of the game and differ from base to base, not just system to system, and they change every day too. If you really wanted to, you could sit on a starbase and make your money by just buying and selling to and from the same market as it changes, but this is a very slow way of making money. You can predict what sort of price differences exist between systems just by calling up the list of imports and exports, but it's worth remember general prices in systems you visit regularly as certain trade routes will bring bigger bucks than others.

Interestingly enough, there are a couple of items on each market which are priced in minus figures, which means that you pay someone else to take them away from you. Predictably enough, these are rubbish and radioactive waste, and removing them can be a costly affair. If you really wanted to save money, you could just jettison them into space, but this is highly illegal and strongly discouraged!

You have to admit, it puts most flight simulators to shame. What's more, it can move too!

reputation drops. Reputation is something you can't see directly, you can only see the reaction. If your reputation is high, then you will get offered loads of jobs and people will be willing to pay extra. If your reputation is low, you won't get offered much, and it's probably a good time to try another star system.

SPONDULICKS

You might have noticed that a lot of the game seems to be based around making lots of money. Unlike *Elite*, money can get you a lot more than just items to trade with. Of course, there's a massive stock market to trade in (see panel), but money does a lot more than that. You can buy all sorts of additions for your ship, such as bigger and better engines; Hyperspace Cloud Analysers which can check where a ship has gone once it has gone into hyperspace; passenger cabins so that you can run a taxi service; and dozens of other toys too complicated to detail here. Best of all, though, is the fact that you can, if you like, buy a completely new ship! There are over thirty different ships for sale, from small and zippy single crew fighters perfect for combat to huge, lumbering cargo ships that can just about fit inside space station docking bays. You can still fly a Cobra if you like, but why would you want to?

But enough about the background and basics of the game. What is it actually like to play? I'm surprised you need to ask, just take a look at the 97% rating! It doesn't get that for looking nice, I can tell you. It goes without saying that the mouse control is incredibly responsive, and that the icon based control panel gives you full access to starmaps and informa- »

THE ORIGINAL, BUT THE BEST?

Probably everyone has played *Elite* at one point or another, but if you haven't then here's a quick guide. *Elite* placed you in the shoes of Commander Jameson, space pilot, in the middle of one of eight imaginary galaxies. Trading and fighting your way through the ranks, your aim was merely to achieve a ranking of Elite. Played across 2000 planets and with over 20 different ship types (although you could only fly a Cobra), the game wowed 8-bit owners with its very fast (for the time) wireframe graphics and exciting space battles. The Amiga version was basically a port of the C64 version, with one or two differences. The text menus had been replaced with an icon based system, and the inky black spacecraft had been coloured in with garish primary colours!








HMV Games
LEVEL one



tion screens alike and is logically arranged and easy to follow. What makes this game so good is that it feels right. You actually get very involved in the game, right to the point where you really feel like you're in that Eagle fighter, closing in on the planet Sol, ready to swoop low and land next to the mountain. It's hard to describe the thoughts that go through your head when you're leaving a planet surface and heading for the sun, but the awesome view from your rear window is enough to make you sit back and sigh heavily. If you've ever wanted to be an astronaut, but find that like me you're a couple of inches below regulation height and a few points below the regulation IQ, then just flying around will be enough to keep you entertained for hours.

There are two separate control methods in the game, both accessed by either the mouse or keyboard. You can use the original *Elite* controls, whereby left and right rotate the ship through the z-axis (the one that runs from the nose of the ship to the exhaust port), or you can choose a 'yawing' option, where the ship turns through the horizontal, rather than rotating. The latter definitely feels a lot more comfortable when using a mouse.

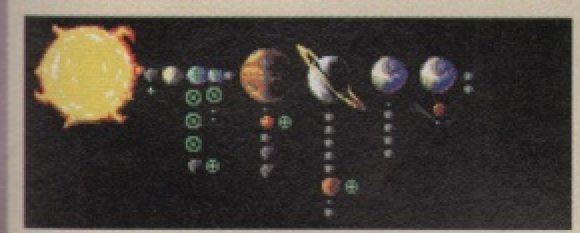


A shielded docking bay.

PASS THE BUCK

Mind you, half the time you don't need to be flying the ship anyway. Remember how handy the docking computer was in *Elite*? How you could just point yourself roughly at a space station and the computer would do the rest? In *Frontier* you have a fully automatic navigational computer, that you can use from the moment you enter a system. Just tar- »

THE STAR OF THE SHOW



David Braben is one of the few programmers you can really name in the same breath as Geoff Crammond, Sid Meier or Archer Maclean. A digital living legend, his games are few and far between, but each one has been even more spectacular and groundbreaking than the last. From *Elite*, through to *Zarch* (later renamed *Virus*) and finally *Frontier*, he has strived to create games like never before. We caught up with him at the recent ECTS to find out all about *Elite 2*.

Q: How long have you been working on *Frontier*?

A: "About five years, but it seems like 20! It took so long because there's a lot in there! I had a few minor problems with Konami, and that's caused some of the later delays. There have been various problems, such as problems with the music but there's no point in having a detailed autopsy of what happened."

Q:When did you first decide to do a sequel to *Elite*?

A: "We originally started the second *Elite* not long after completing the original in 1983/84. I was then working with Ian Bell and we decided what we wanted to do was something that was much more than *Elite*. However, we found that what we wanted to do wasn't practical on 8-bit computers, so we left it. For one reason or another, we went our separate ways, so I've been doing all the coding."

Q:What was stopping *Elite 2* from being feasible before?

A: "It was too slow for the complex 3D graphics we wanted to use. It's easy to forget the difference between current machines and the Commodore 64 and it was impossible to add all the extra gameplay features we wanted to do. Once you start to make things general, the whole thing becomes a lot more work. For example, all the other ships do their own things – act as pirates or whatever – so there's a lot of work that the computer's doing that isn't immediately apparent."

Q:What was in your original design for *Elite 2*?

A: "One of the things that we thought was sorely missing from *Elite* was visiting individual planets. There were a lot of other things we wanted, of course. The original *Elite* was fairly asymmetric in the sense that the player was special, everything was centred around the player. That's much less so now. Really, the spec that we had then was for a very different game to the one that we have now. Then, *Elite 2* was a purely military simulation with all the original *Elite* feel to it, but these are things that in time change and evolve. Different things become possible. We never really set out with a detailed spec. The way I like to work is to think, 'I've got this idea, that idea and I'd love to do this' and just get down to writing it. Usually, as you're going along you realise that there are other things you can do. For example, one of the things I never planned for *Elite 2* was this internal concept of reputation. It's something you can't see, and it's kept secret from the player and, put simply, is what the people of a certain locality think of the player. You can take passengers, and if you don't get them to where they want to go on time, they start bad mouthing you and your reputation drops. Depending on that reputation, different people will have different attitudes to you. One of the things that struck me relatively late in the day, which is slightly perverse but relatively amusing, is that there are charities in the game. If you donate money to charity, it helps your reputation, but only if you donate quite a lot!"

Q:What things did you want to include, but couldn't?

A: "There are always things that either you can't do or you don't have time to do. As you're going along you're always thinking of ideas. I think that most of the things I wanted to put in are there. It's not really a case of things I couldn't put in. It's just that life is only so long. There are things that have struck me recently that I would have liked to have done, but I'd have to unpick quite a lot to put them in. I'm sure that over the next few years I'll release add-ons and things – I'm not promising anything but I'm sure I will. I've put a lot of work into this, and one of the advantages of doing add ons or new version of the game is that anything extra I do is immediate from my point of view. It's soul destroying, working on something for a very long time when you don't see any change in it. You're just doing the background stuff, whereas the stuff that is added late in the day you get an enormous impact from because you can instantly see the difference."

Q: What's your proudest moment?

A: "Probably the astronomical side. It's one of my hobbies as you probably know. The backdrop to the game is very accurate. I've talked to various people in the University Astronomy department about it, and it's as near as I can make it to fit into all the current theories. The most important one as far as I'm concerned is how often planets occur. What I've done is taken all the data for the nearby systems, and that's what they are really like as far as we know. You see, even with the most powerful telescopes we can only tell where the stars are. We can't see if they've got planets or what they're like except for in one system. Those are all in there, right down to Saturn's moons, and they are all orbitally correct. For the other systems, the ones we don't know about, I've tried to generate the planets according to the current theories of how planets form, so you end up with systems that are 'very likely to be'. The sorts of systems that are there. Obviously it cannot show you what is really there, because we don't know, but it's quite likely to be very close."





I WANT YOU!

One of the best things about *Frontier* is that there are literally dozens of different roles for you to play, and you can play any one you want, provided you have the cash and equipment to follow through. Here are just a small collection of different trades, plus the items you'll need to be able to pursue that particular career.

Trader

This is the backbone and crux of the game. Before you can possibly be anything else, you'll need to spend some time as a trader, ferrying goods from one starbase to another, buying low, selling high and all the rest of it. To be really successful, you'll need a large ship with plenty of cargo space, plus enough armaments to keep you safe in combat.

Pirate

This is just one of the trades open to you in the original *Elite*. All this requires is a hard ship and a liking for sitting out on the edge of systems and looking for cargo ships to attack. You'll need a fuel scoop to collect the goods that get dropped, and not mind too much when your legal status drops horrendously, making you the most wanted man in the galaxy!

Taxi/Courier

The ultimate test of your navigation skills. You'll need some passenger cabins in your ship, plus a fairly long range ship. Just check the bulletin boards at each station, collecting people who offer the most money and ferrying them as fast as you can. As your reputation increases, people will offer you more and more money. If you want to ferry packages, you don't need to worry about cargo space, as packages are deemed small enough to travel on your lap without a seatbelt.

Assassin/Spy

If your reputation is high enough, you will be asked to carry out assassination contracts for the two opposing forces in the cold war. Do well, and you'll be promoted through the ranks, offered more and more money for more and more dangerous contracts. A good way to get rich, but incredibly risky, as sooner or later the opposing side is going to send an assassin after you!

Miner

No, not the young kind. This is something else you could do in *Elite*, just by blowing up asteroids and collecting the rocks with a fuel scoop. In *Frontier*, you can buy mining rigs, set them up on small moons and mine for minerals which you return and collect later. A slow but sure way to make money.

» get a base from the depths of space, and the computer will mark out the route on the HUD for you. Then kick in the autopilot, and just let the electronic brain take the strain. You could do everything manually if you wanted to, but who would really want to?

Five years is an immensely long time to spend on a game, especially if you're not Lord British, but this game looks like it's been worth every minute. Visually it is the most impressive game I have ever seen, bar none. You have never seen polygons like this before. By this point, you will have loaded the coverdemo and seen the impressive light sourced (with the light taken from the nearest star, in the correct colour!) polygons, but you won't have seen half of it. The detail in this game is simply staggering. Awe inspiring. Toe curling. Of the first water. Stunning. Unbelievable. And loads of words not available in my Thesaurus. From the depths of space, where a planet is nothing more than a single pixel, you can fly in a straight line right up to a building, complete with doors, windows and even signs if it's a shop. You can see cities from space. You can sit on a planet and watch nightfall, or if you've picked the right planet, you can watch a planetfall. Ever wanted to see Saturn set from one of its moons? You can with this game! Ships are displayed with full external instruments and even ID numbers!

The galactic map at various levels of zoom. On the highest zoom, each pixel represents a star!

MORE PRAISE

The most impressive thing is that it does all of this will little loss of speed. However, the A500 can struggle with some of the cities. For the lower machines, you can turn off the detail, so it isn't much of a problem. It works on a hierarchical system of detail, where the computer only draws the polygons that it really has to. It works like this. Firstly, the machine checks if you can see the planet. If you can, it'll draw it. Then it'll see if you can make out coastlines, and add them. Then it'll add cities, blocks of buildings, then individual buildings, then doors and windows. It really puts most flight simulators to shame, I can tell you!

I'm really not sure I can come up with a description of *Elite 2* that really does it justice. It's certainly the best game I have ever seen, on any machine. It throws enough challenges at you to keep you going forever, and the amount of things you can change about the game means that you will never get bored of it. A million games in one, *Frontier* is the game that should earn David Braben a knighthood, if not actually have him canonised. Worth every second of the nine-year wait, without question.

Every star in the game is in its correct place, but the further you go, the less have names.

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GENRE:	ELITE!
TEAM:	DAVID BRABEN
CONTROLS:	MOUSE, KEYBOARD
NUMBER OF DISKS:	2
NUMBER OF PLAYERS:	1
HARD DISK INSTALLABLE:	YES
MEMORY:	1Mb

GRAPHICS	98%
SOUND	91%
LASTABILITY	98%
PLAYABILITY	97%

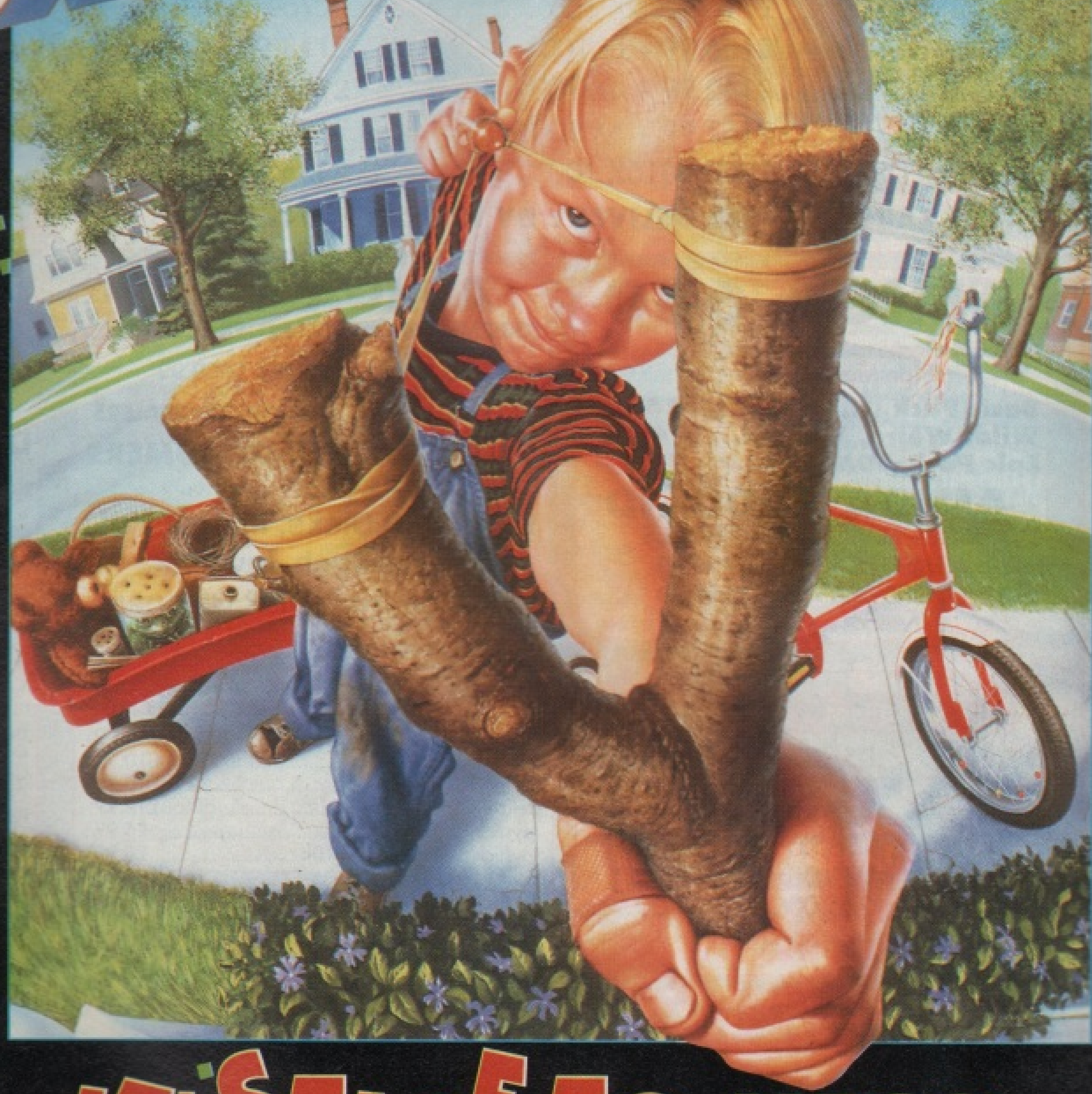
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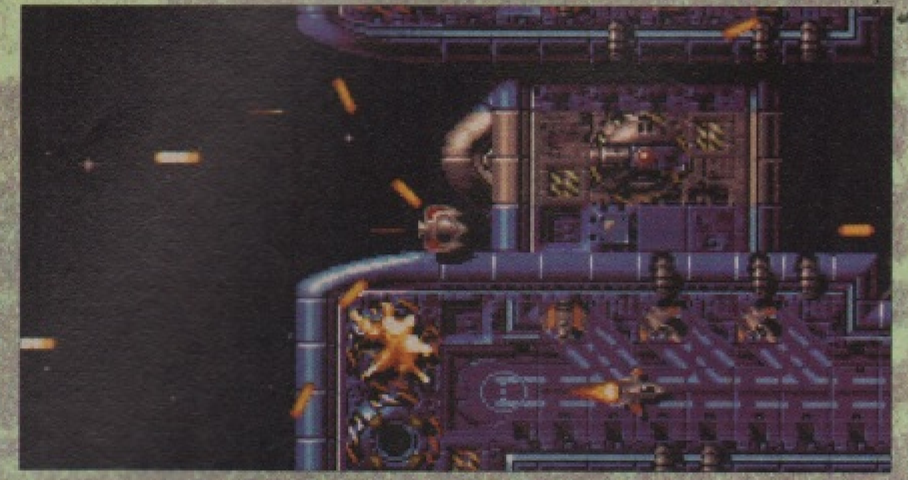






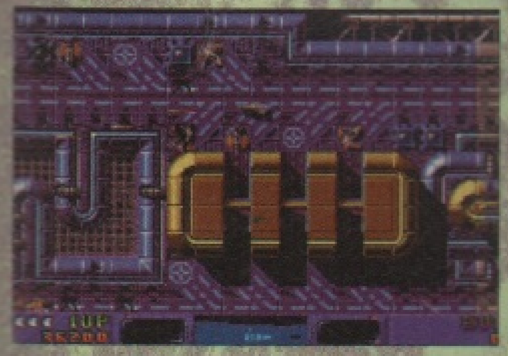
URIDIUM 2

After seven years, an infinite number of previews and an incredible amount of hype will Andrew Braybrook's masterpiece live up to expectations? Jon Sloan looks for the truth behind the legend.



One of the better pick ups this. It sprays a laser arc for 180 degrees in front of the Manta before repeating the same behind. Come and get me now suckers!!

There's no doubt that this game is a cleverly-crafted bit of coding. Seven years in the making and with umpteen bells and whistles *Uridium 2* is so slick it trips itself up. It's a bit like a meringue – beautiful to look at but with little substance. Forgetting the usual dubious storyline, the aim of the game is fairly simple: you pilot a small Manta attack craft over the top of huge space battle cruisers shooting everything that comes your way. When you've destroyed a suitable amount



One of the more conspicuous bits of raised superstructure. If only they were all as easy to spot as this one.

of the superstructure, land the Manta on one of the battleship's pads, get out and then use a hand laser to blow up the main reactor. Simple, huh? Wrong! This is one tough game – from getting to grips with the controls to actually taking on the enemy; nothing is easy.

CONTROLLED FIRE

First up, you have to learn to control the Manta. Grabbing a joystick, wiggling it a bit and stabbing fire just isn't good enough. This basics of craft control are no problem but to advance you'll need to learn how to turn the Manta on its side and even upside down. You see, on later levels, sections of the dreadnoughts are raised up. So, to avoid a Manta-mashing smash, you'll need to be able to twist it through more contortions than an Indian rubber man. These raised bits are probably one of the most annoying aspects of the game. The only way to spot them is to glance at the scanner or look for a tell-tale shadow. That's all well and good, but when you're speeding away from a squadron of fighters dodging laser blasts, it's almost impossible to spot them until it's too late.

Protecting each dreadnought are up to nine attack waves of fighters, which have a tendency to sneak up on you when you least expect it. Don't rely on your radar to spot them 'cos they're generally too fast for it to be of any practical value. In fact, on later levels, when they start to use jamming equipment, it's next to useless.

To add to your misery these fighters arbitrarily change formation and even send single chase ships after your Manta. Destroy a whole wave though and you'll get a chance to nab a victory token. Normally you need to survive all the attack waves before landing to blow up the reactor, but collect enough victory tokens and you can land early.

You'll need more than just quick reflexes to take out the reactor core. It defends itself with a shield a well as a gravitational pull which draws you into the furnace and destruction.

PARKING METER

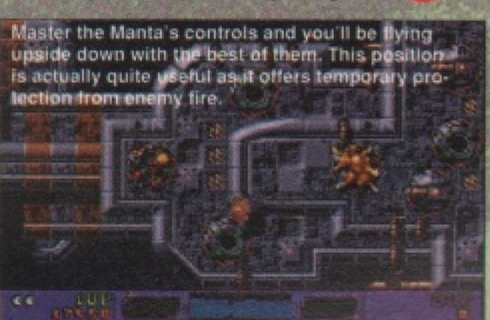
Once you've parked the Manta the view switches to the inside of the dreadnought's reactor. Your job here is to control the pilot as he circles the core blasting it to bits. This is easier said than done as it'll try to protect itself with a shield which attacks as well as defends.

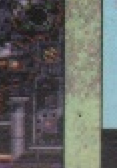
Control here is pretty tricky 'cos the core exerts a gravitational force alternating between attraction and repulsion making the usual inertia even more frustrating. But successful penetration releases a shower of pick-ups giving your Manta even more power on the next level. Blow one ship up and it's on to the next, and the next, each becoming more and more taxing with the addition of ultra complicated attack waves and crash-inducing superstructure. The final challenge will take even the most able game player a lifetime to master.

UNDER MINED

I've a feeling that *Uridium 2* is going to be one of those games that polarises opinion. Some people are going to go wild over it, others, like myself, will end up feeling nothing more than antipathy. It's true that everything that glitters is not gold and this game reinforces that axiom.

It is a polished game and it's obvious that a lot of thought has gone into the design. However, it's just too damn tough. But then again, maybe I'm getting old? CU



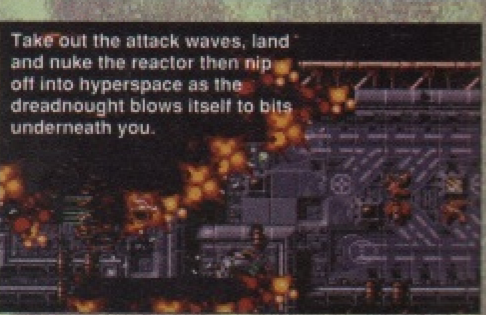


Master the Manta's controls and you'll be flying upside down with the best of them. This position is actually quite useful as it offers temporary protection from enemy fire.

URIDIUM... THEN AND NOW

The original *Uridium* was one of the best games to appear on the old C64. In fact, in 1986, it collected more awards for gameplay than you could shake a stick at. The plots for the two are virtually identical – huge dreadnoughts, small Manta craft, generator explosions etc. In fact, Mr Braybrook has ported across all the original attack wave patterns and only modified them where he felt that they were too tough to beat. In addition, new attack waves have been added with ships that can break formation and chase the player.

So, what else is new? The control mode has been updated to allow for faster turns and greater manoeuvrability. The Manta can now fly upside down, which is useful for avoiding chase ships as they can't hit you while in that position. There are weapon pick-ups for increased firepower, but the enemy ships now have chaff to confuse the power-ups. The generator destruction sub-game has been beefed up considerably and owners of AGA machines get the benefit of a Mayhem mode where even the kitchen sink is thrown at you. Finally, there's a new option for a drone ship to follow your Manta. This can be controlled by the computer or a second player.



Take out the attack waves, land and nuke the reactor then nip off into hyperspace as the dreadnought blows itself to bits underneath you.

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RELEASE DATE:	OUT NOW
GENRE:	SHOOT 'EM UP
TEAM:	IN HOUSE
CONTROLS:	JOYSTICK, KEYBOARD
NUMBER OF DISKS:	2
NUMBER OF PLAYERS:	2
MEMORY:	1Mb

GRAPHICS	81%
SOUND	80%
LASTABILITY	81%
PLAYABILITY	74%

"Slick, polished but too damn tough."

OVERALL 78%

THEATRE OF DEATH

PSYGNOSIS OUT NOW £25.99

It's always the same, just like buses – you wait for ages, and then a whole bundle come along at once. *Theatre Of Death* could be described as Psygnosis' answer to *Cannon Fodder*, apart from the fact that *Cannon Fodder* isn't out yet. Picture it as a kind of *Commando* meets *Lemmings*, with a little *Laser Squad* thrown in.



Flag colours denote which, of the many, areas you have conquered.

You and your little digital convoy have to raise hell in a series of increasingly-tough missions over one of the geographically tidiest planets ever.



Just like *Cannon Fodder*, this game has more than its fair share of carnage!

Of course, there have to be differences between this and *Cannon Fodder*. For a start, it's nowhere near as polished, neither visually nor in gameplay. Secondly, it isn't an action game per se. Instead, it's a cross between your 'hold down the mouse button and follow the trail of death' blazer and a 'program the moves' real time war game, where you can shepherd your platoon into the danger zone, and then take over when the action starts. You have at least 10 men in your platoon to start with, all of which have an extremely limited intelligence. They will head in the general direction of the squadron leader – regardless of terrain, so watch out for quicksand – and will all open fire on approaching enemy troops. They won't try to get out of the way of oncoming tanks or attempt to avoid grenades, so you're going to have your work cut out just keeping them alive!



This map shows you the positions on the current battlefield. Get out your thinking cap!

At first glance, *Theatre Of Death* doesn't look like it's up to much. An impression which was reinforced once I'd started to play. The controls are some of the most unresponsive I have come across – it is incredibly hard to move things around accurately. Just getting a tank to drive in a straight line is an effort!



You don't have to spend all your time on foot. If you're lucky, you'll find a tank knocking about!

The dodgy controls, plus the fact that the computer intelligence is so pathetic, just combine together to make a good game too unplayable to be fun.

Tony Dillon

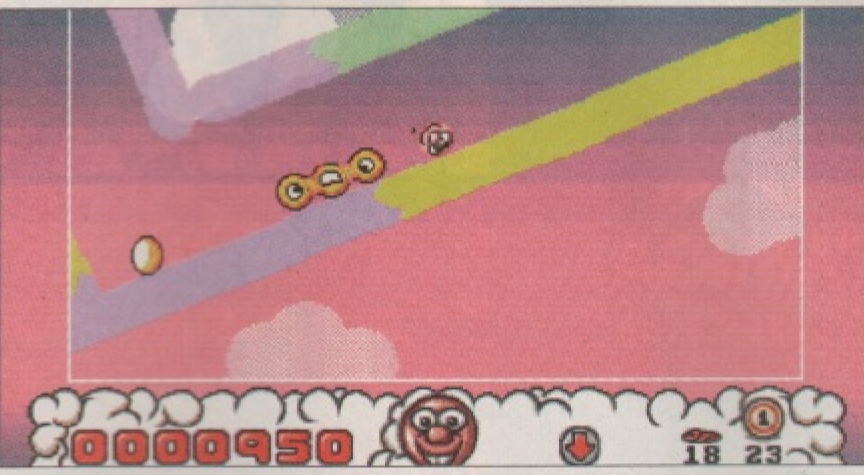
68%



Tony Dillon getting up in the morning.

BOB'S BAD DAY

PSYGNOSIS OUT NOW £19.99



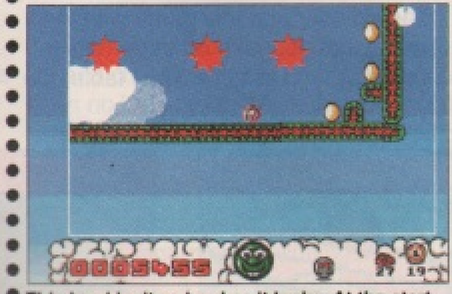
These monsters don't appear until the later levels. Hit them and they nick your coins, but no coins means instant death.

Some people are born lucky, like a mate of mine who has this uncanny knack of finding money in the most unusual of places. Others have so much bad luck that they can't get out of bed without stepping in a great steaming pile of dog pooh. Bob, as you might have guessed, belongs to the latter group of unfortunates. Apparently, he's annoyed a dodgy wizard who has turned his head into a bouncy ball and dumped it in a series of mazes. The only way out is to collect all the coins which have been conveniently left there.

Your job is to help Bob out of his predicament by guiding him around the mazes and picking up all the coins. Of course, there are many dangers to face, like spiky cogs and, in later levels, nasties in the shape of kitchen plungers and spinning stick

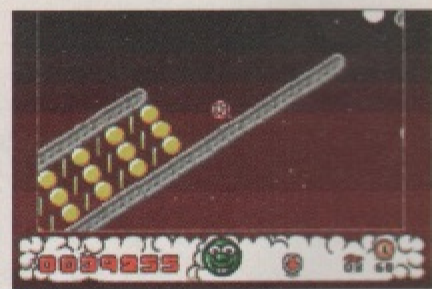


Watch out for the spiky cogs. The only time that you can touch them safely is after collecting an aggression token which allows you to hit and destroy them.



This level isn't as hard as it looks. At the start you collect a magnet token which sticks you to the walls and away from the cogs.

things. Hitting them is no big deal as long as you've got some coins in reserve. Run out, however, and Bob bursts losing the level and the game. You can also lose by spending too long bouncing and spinning 'cos Bob can only take so much before he goes green and throws up all over the screen. To really add some difficulty there's the odd icon which, once collected, will do really horrible things like altering the pull of gravity or disabling part of your joystick.



The backgrounds do vary but, on the whole, they're pretty awful. The good thing is that you get so absorbed by the gameplay that you forget they're there.

This game concept has been explored before but what makes *BBD* so unusual is that it's the first Amiga game to implement full screen pixel rotation. Yes, the SNES's Mode 7 has made it to the Amiga. So, instead of bouncing Bob around a static maze you rotate the maze around him! The Dome are the team behind this coding breakthrough; they are a Norwich-based development house who are relatively new to the Amiga scene having formed a mere six months ago.

Of course, the downside of being the first to utilise Mode 7-style rotation is that the game graphics have to be very basic. This initially detracts from what is a very playable game, but you'd be foolish to let it influence you for more than a few seconds. *Bob's Bad Day* is one of the most playable and addictive games I've seen in some time. The difficulty curve is exceptionally well judged, the playability is pitched just right and, with 100 levels, it'll keep you going for a good while. Don't let first impressions put you off *Bob's Bad Day* or you'll miss one hell of an addictive puzzler. Try it out.

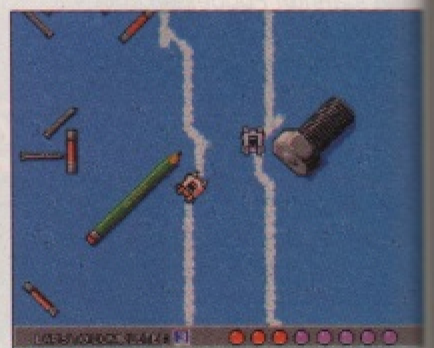
Jon Sloan

80%

MICRO MACHINES

CU AMIGA SCREEN STAR

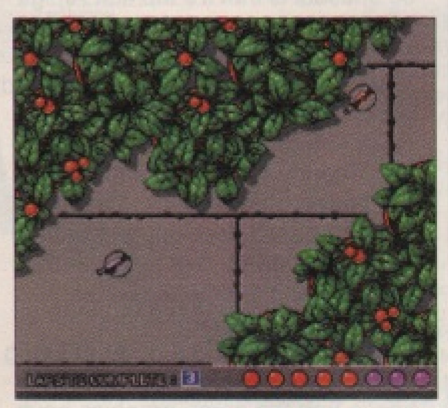
Shunting the other cars off the track is the most enjoyable part of the game.


The warriors are the slowest vehicles you'll control. Watch out for the spots of glue.

As the *Micro Machines* toys fade into memory, where's the sense in licensing a game based on their exploits? Mark Patterson jumps behind the wheel to search for the answer.

From NES through Mega Drive to the Amiga; it's been a long time coming but *Micro Machines* has finally made it. Despite its looks it has take the console world by storm, but will it be as successful in the more discerning Amiga market? Read on ...

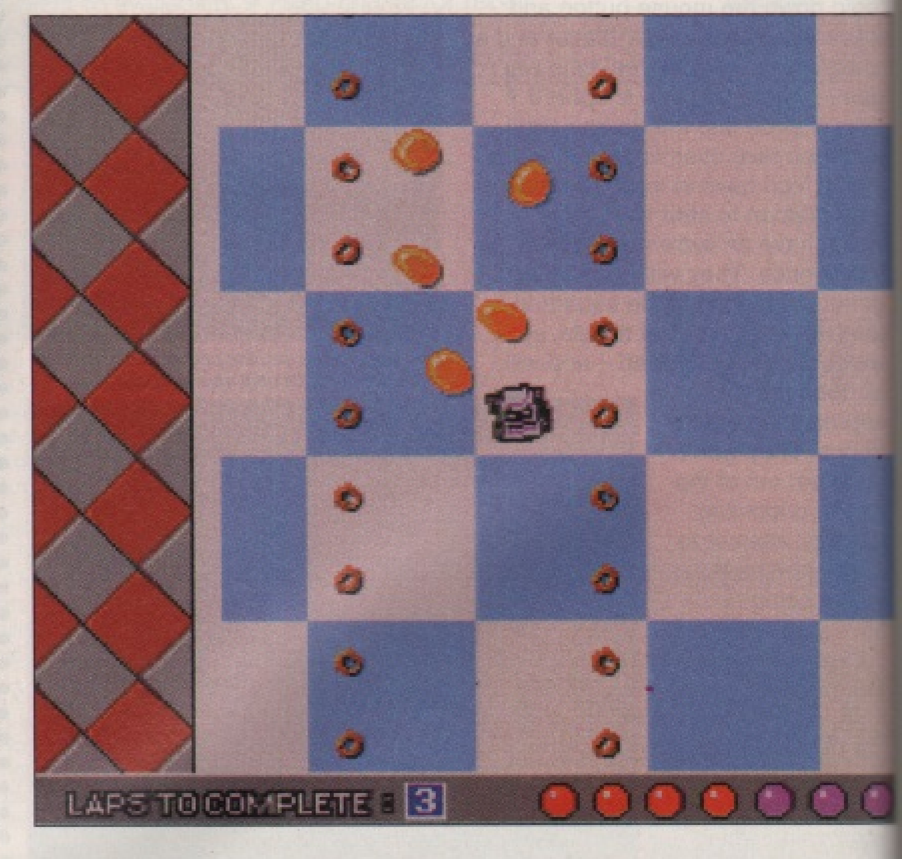
So what's so great about a race game with tiny sprites, especially when compared to classic race games such as Microprose's *Grand Prix* and Gremlins' *Lotus*. The answer is fun. When it comes to sheer playability, *Micro Machines* beats the competition into a bloody pulp.


These 'copters are the only vehicles that leave the ground – deliberately.

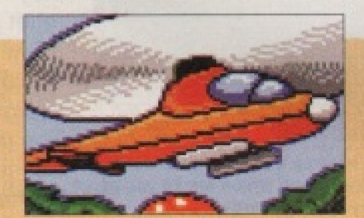

The snooker tablecourse holds the most hazards for unwary drivers.

SCALED DOWN

I guess whoever designed the real *Micro Machines* thought that the kids would race them around a variety of makeshift tracks. That idea has been carried over into this game with the result that you take on other cars in races around the breakfast table, the

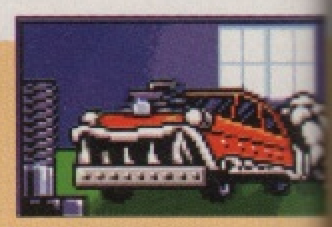



Super cars: These formula one demons tear up the pool table track and teleport through the pockets. Racing around the table's rim will really challenge your reflexes.


Helicopters: It's off to the green house for a flight through the bedding plants in this level. Hazards includes bushes and dad's sprinkler system. One quick nudge and you're off the track.


Tanks: This isn't so much a race, more a war. The tanks are slow, but they've got guns, so whoever's quickest with their trigger finger will win. Let your opponent take the lead, then blast him.


Dune Buggies: These 4x4s are fast and very tough to control, making this event one of the most unpredictable in the whole game. There's loads of water traps to fall into on this track.


Road Warriors: Although this is the slowest of the games, Road Warriors is also the most violent. The vehicles come with giant spikes mounted on the wings, giving them a destructive edge.

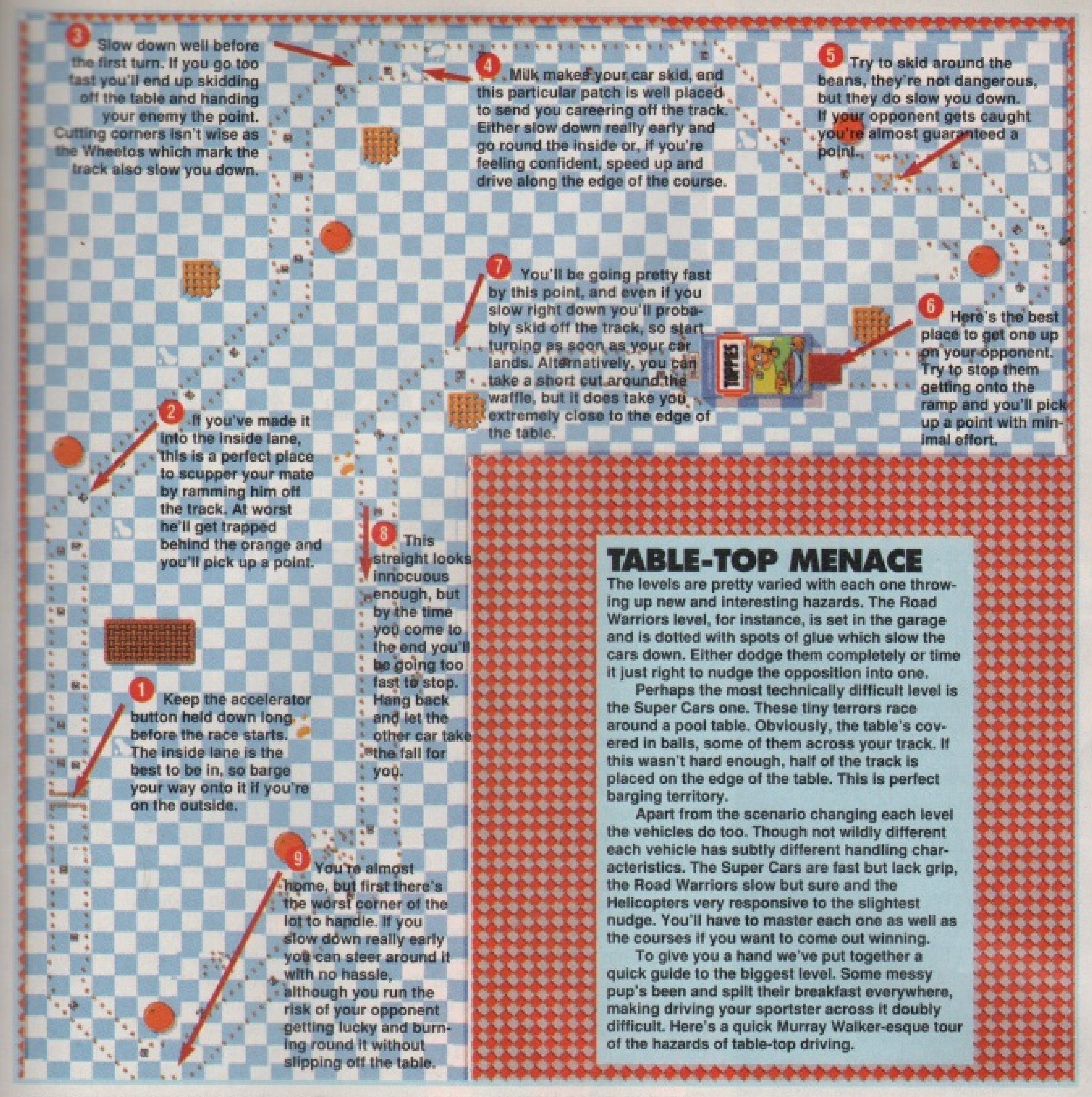


TABLE-TOP MENACE

The levels are pretty varied with each one throwing up new and interesting hazards. The Road Warriors level, for instance, is set in the garage and is dotted with spots of glue which slow the cars down. Either dodge them completely or time it just right to nudge the opposition into one.

Perhaps the most technically difficult level is the Super Cars one. These tiny terrors race around a pool table. Obviously, the table's covered in balls, some of them across your track. If this wasn't hard enough, half of the track is placed on the edge of the table. This is perfect barging territory.

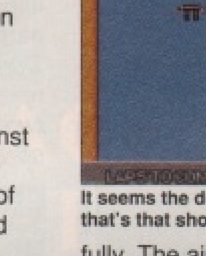
Apart from the scenario changing each level the vehicles do too. Though not wildly different each vehicle has subtly different handling characteristics. The Super Cars are fast but lack grip, the Road Warriors slow but sure and the Helicopters very responsive to the slightest nudge. You'll have to master each one as well as the courses if you want to come out winning.

To give you a hand we've put together a quick guide to the biggest level. Some messy pup's been and spilt their breakfast everywhere, making driving your sportster across it doubly difficult. Here's a quick Murray Walker-esque tour of the hazards of table-top driving.

garage and other mundane locations. There's nothing mundane about this gameplay though – with hazards like spilled milk and beans and the odd pool ball, you'll need the reflexes of a cat if you're going to come out triumphant. You can play the game with a friend or against the computer, with the two-player head-to-head being the most fun. The aim is simple. All you have to do is drive your vehicle around scrolling levels staying ahead of your opponent. Do this for enough laps and you win that round. No gears, no thrills, just action. The biggest hazard in the game is the inertia, especially on the faster vehicles which is fantastically over the top. But this just adds to the enjoyment as it makes events like the formula one car race on the snooker table one of the trickiest in the game as you're required to steer at top speed down narrow tracks and pencil-thin turns. To add to the danger, if you get a full screen ahead of the other car you win a point – do that seven times and you automatically win.

THREE FOR ALL

A one-player game pits you against four computer drivers. These are chosen from a pool of ten, each of who have their own strengths and weaknesses. Some might drive aggressively, others slowly and carefully. The aim is to complete three laps and cross the line in first place, which is no mean feat. While the controls are simple, the tracks are laid out to catch the unwary driver. Often there will be just enough room to squeeze one vehicle through, while other areas contain lethal hazards and winning short-cuts.




It seems the dune buggies can't float. Oh well, that's that shortcut out the window.

To win a race you need to know the course. There's no room for wimps in this game, as you attempt to barge your opponents into track-side obstacles or off the track altogether. Several of the courses are designed with this in mind. For instance, the school desk which plays host to the sports cars has a bridge with room for one vehicle only.




Top: Choose your opponent with care, some are better than others.
Above: It's war boys. Don't be too hasty to lead or you may be in for a loud surprise.

So, if you're not in the lead when you reach the bridge, you're liable to come a cropper.

TECHNO-DUFFER

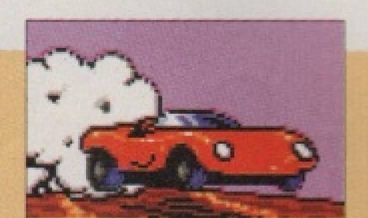
For technical merit, *Micro Machines* scores minus figures. The scrolling is smooth and fast, but the graphics are poorly detailed and the sprites tiny. The sound is equally simple with snarling engine noises and precious little else. Somehow, this just adds to the game's style, leaving it uncluttered so you can get on with the real business of trouncing your mates.

I've been addicted to this game in its previous incarnations, and I'm nonless hooked now.

Nothing has been lost in the translation, and while it is lacking technically, you'll be hard-pressed to find a more playable game this side of the new year.

ACTION STATIONS

Boats: Bath time is hell for the speed boats as they leap over blocks of soap and come a cropper in a puddle of undissolved Radox. Pick the wrong route and you'll end up down a plug hole.


Sports Cars: Face the terror of the school desk, with rubbers and pencil sharpeners blocking your path. It's fast, furious and there's always the danger of falling off the desk. Get ready for the biggest jump around.

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RELEASE DATE:	NOVEMBER
GENRE:	RACING
TEAM:	IN HOUSE
CONTROLS:	JOYSTICK, KEYPAD
NUMBER OF DISKS:	1
NUMBER OF PLAYERS:	1/2
HARD DISK INSTALLABLE:	NO
MEMORY:	512K

GRAPHICS	67%
SOUND	60%
LASTABILITY	89%
PLAYABILITY	92%

"Very original and extremely playable."

OVERALL 89%



The most striking thing about the Scottish circuit is the sunset. I didn't realise that so many people in Scotland drove Lotus Esprits. Or maybe the graphic artist couldn't be bothered to draw another car. If you've got a little cash you can buy a few spares from Sharon the shop girl.

BURNING RUBBER

OCEAN SOFTWARE OUT NOW £25.99

It was once true that virtually every Ocean game license had a driving section in it and, apart from the main sprite changing, they all looked the same. I guess they were so proud of the driving code they'd written they wanted to show it off time and again. Unfortunately, it seems like they've now decided to return to basics and release that driving section as a whole game.

C'mon guys, once you've raced along one featureless landscape in some dodgily-drawn sprite you've raced them all!

Burning Rubber is the ultimate boy racer's fantasy. If you were to go along to Romford racetrack on a Friday night and ask one of the spotty teenagers there what kind of game he'd design this would be it.

The idea is ludicrously simple – pick one of six souped-up production cars, customise them a bit more, then take them for a spin on roads across Europe and the USA. Along the way you get to choose your route, smash into other racers and avoid the odd police car waiting by the side of the road. Yawn. It's a pity that Ocean didn't go the whole hog and include a, 'How to get into Sharon's knickers while on the back seat of the Cortina' sub-game.

It's difficult to find anything good to say about this game – it's the worst kind of grab the money and run rush job I've seen in some time. The most enjoyable aspect is the demo by Utah Saints which runs before the game loads. After that it's all down hill. The cars behave like they're on ice, especially on machines with fast processors. The loading music sounds like Des O'Connor's Greatest Hits played on a Hammond Organ and the collision detection is so bad that the car simply jiggles a bit when you hit any other vehicles.

Burning Rubber should be avoided at all costs, just like Romford on a Friday night.

Jon Sloan

41%





Right: Select your route before you depart. Try to avoid too many tight turns 'cos if you miss one you can't reverse to try again.

Below: It's the boy racer's nightmare – the pigs. It's funny how the police cars don't change – this one looks like a left over from *Hill Street Blues*.

DAMAGE %0
TIME 00:30

DOGFIGHT



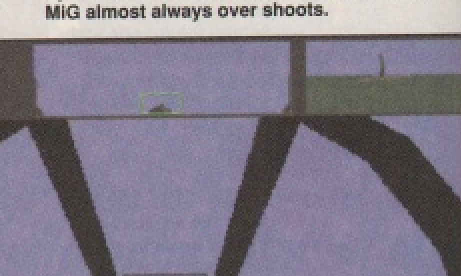
MICROPROSE OUT NOW £29.99

Flight simulators have been covered from every single angle since the birth of computer games, and most of them have been released by Microprose. *Dogfight* is a step in a new direction for the company that prides itself on the most accurate simulations around – an arcade sim! No, not an arcade game, an arcade sim.

Essentially, they've just taken out all the difficult flight controls of their usual titles, and shoved a little more emphasis on action. Rather than sit through a million mission briefings, spending all that time choosing armaments and then actually trying to find the enemy, *Dogfight* sticks you in the middle of battle in any of six historical scenarios using any of 14 different planes from a Sopwith Camel to a Sea Harrier.

You can choose to go one-on-one with an equivalent plane, take on up to five different computer controlled aircraft at once or take part in 12 different mission backdrops. It all sounds quite packed, yet it scores badly. Why? Basically, the most important option is missing. How on earth can you have a game called *Dogfight* and not include a two-player option? The PC version allows for two players, using linked machines, so why not the Amiga?

Select the 'What if?' option and you can mismatch some poor Spitfire with a state-of-the-art MiG fighter. The only real advantage the Spitfire has is that it's travelling so slow the MiG almost always over shoots.



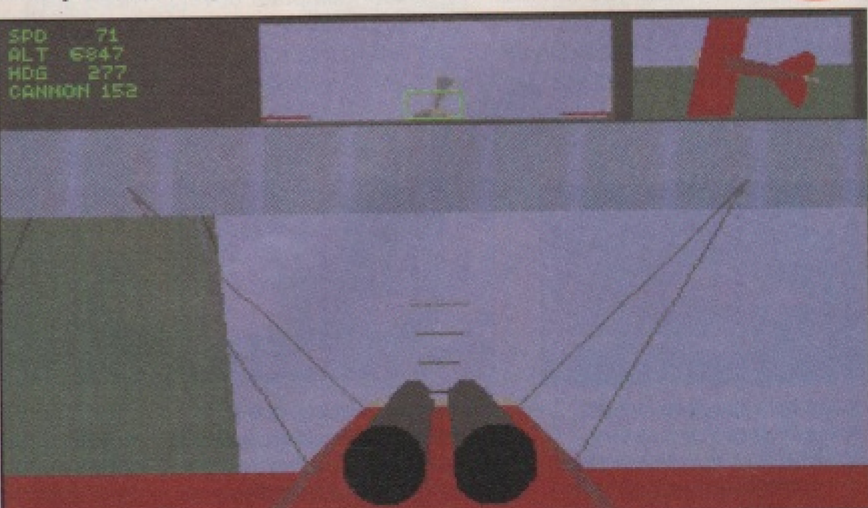
The tri-view is the most useful as it lets you see what's in front of and behind you, as well as giving you a 3D orientation.

So, what do you have? A standard flight sim with more combat than most. The controls are strangely sluggish on all machines (regardless of plane types, although the older fighters do tend to handle better). The game is slowed down even further by the fact that when you change views, it has to load them in. For a game that's supposed to be action based, you sure do have to sit about a lot!

Without the two-player option, there isn't much game left. The real problem is that is falls between two stools. It is far too slow to be the fast-paced action blaster it claims to be, even on an A4000, and it lacks enough depth to please simulation fans. All in, there just isn't enough to satisfy anyone.

Tony Dillon

42%



This is what war is all about – the wind in your hair, the smell of diesel and cordite, the splash of red as bullets rake your chest. Ahh, bliss.

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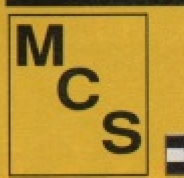
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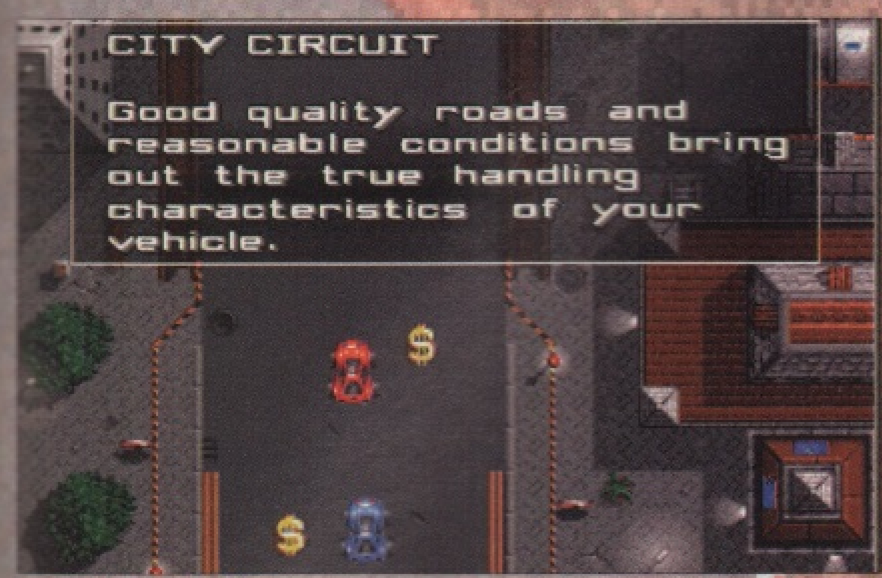
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OVERDRIVE

They're small, they're fast and they can spin on the spot. However, there's nothing small about Team 17's machines. Tony Dillon, on the other hand...



Before each level, you are given a brief description of the track ahead.

Top-view racing games are a bit old hat in most people's eyes. The genre is as old as the hills and there are many who say that it has gone as far as it can. Naturally, these aren't people who have played either *Micro Machines* or *Overdrive* – the latest in a very consistent line of hits from Team 17.

BUY ONE, GET ONE FREE

Overdrive is practically two games in one. Firstly, you have the arcade game, where you have to race against a succession of drivers, each better than the one before, until you reach the final challenge and claim victory. The second game is a time-trials challenge, where you have to race a variety of vehicles over a number of courses against the clock.


The problem with turbo pads, is they can often make cornering a bit of a problem!

This is slightly easier than the arcade version and gives you the option to get some practice in.

You have four different cars to control in *Overdrive*, ranging from a GP to a Super sports car. All have their own strengths and weaknesses, as you would expect. The speed and manoeuvrability isn't really an issue, as you only ever race against vehicles of the same type. The only thing that exploits the weaknesses is the course you are racing on. There are five different types, from Grand Prix courses to icy roads, and the vehicle you are in greatly affects the difficulty level of the course. A 4x4 will have little difficulty in the desert terrain, but would be wasted in the city. A GP car is far too fast for the city circuits, but perfect on a racetrack.

PICK AND MIX

By mixing these elements together, you can tailor the game to suit your playing level, making the game as easy or as difficult as you like. Just as well, really, as this is not a very easy game to play.

Sure, the controls are very responsive, and it goes without saying that it's incredibly playable. What makes it so tough is the speed. Everything just whips along at such a rate that it's often hard to anticipate corners, and you end up careering all over the shop.

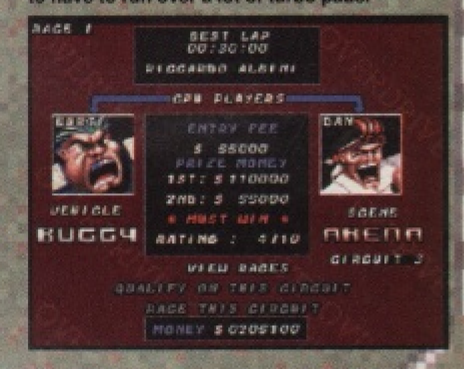
Once you become familiar with a track, then the fun really kicks in. Before you know it, you're racing over every turbo pad there is, leaving the other drivers coughing your dust.

Of course, it can't all be good, or it would have got a mark of 100%. The biggest problem is the horrendous loading times. As the levels vary greatly, the game has to load in complete graphics for each race, which can take a lot longer than the race itself in some cases!

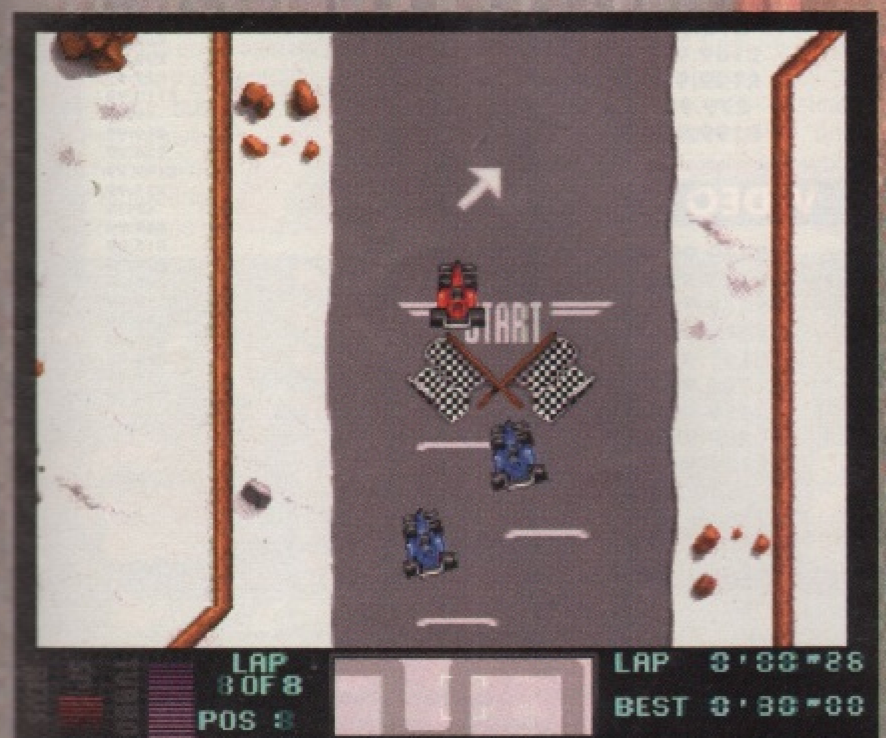
One particular thing that annoyed me was the way that the program needs to load the track after you've finished qualifying. Surely the course is already resident in memory at that point?

Some of the presentation screens are a little bland too. I would have liked to have seen a lot more in the way of animated faces – maybe the other drivers passing verdict on your driving skills, but that's really just nitpicking. CU


To stand any chance of winning, you're going to have to run over a lot of turbo pads.



The core of the arcade mode. Before each race, you can select a course from a list of three.



Taking an early lead, the boy Dillon looks set to do us proud...Not.

MULTI-PLAYER MADNESS

What kind of arcade racer doesn't have a two-player mode? No kind of arcade racer, that's what! But there's none of this nancy split-screen action (can you imagine how hard that would make a game as fast as this!). Instead, *Overdrive* lets you link up two machines via that old workhorse, the null modem cable. Okay you say, plenty of games have done that in the past, why should this be any better?

Because the game doesn't slow one jot, that's why. For the first time, you can have full 50Hz scrolling on two linked machines!

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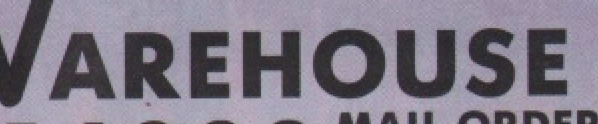
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RELEASE DATE:	OUT NOW
GENRE:	ARCADE
TEAM:	PSIONIC
CONTROLS:	JOYSTICK
NUMBER OF DISKS:	2
NUMBER OF PLAYERS:	2
HARD DISK INSTALLABLE:	NO
MEMORY:	1mb

GRAPHICS	86%
SOUND	81%
LASTABILITY	80%
PLAYABILITY	84%

"Hugely playable arcade racer. One of the best racing games yet."

OVERALL 83%






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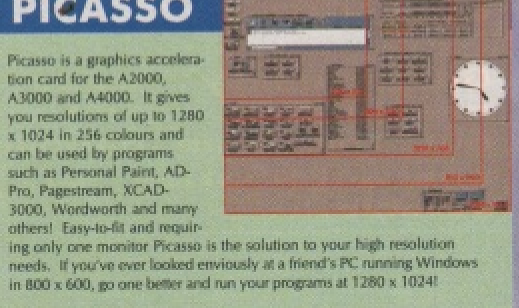
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IDEK

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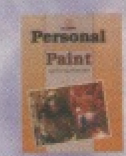
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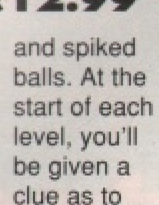
QWAK



TEAM 17 OUT NOW £12.99

Team 17 step forward, once again, to show that budget price doesn't have to mean budget quality. *Qwak* is quite simply one of the most fun games I've seen in quite a while.

Remember how much fun you had playing *Bubble Bobble*? Well, *Qwak* is a lot like that dinosaurus bubble-em-up. It's a two-player game where you have to bounce around a single screen knocking out the bad guys with large round objects while collecting enough keys to open the exit to the next level.



There are eighty levels



A heavily armoured duck!

for you and a friend (if you have one handy) to smash your way through. Levels range from castles to snowy wastelands. Why two little ducks are wandering around castles and wastelands, the manual doesn't say, but there you are, throwing eggs with all your might at floating fish, phantoms and spiked balls. At the start of each level, you'll be given a clue as to what to expect. For example, if a clause pops up saying, 'I wish I'd brought my brolly', means that the next level will have a lot of things falling from the top of the screen.

Visually, the game is little more than an explosion of colour. Detailed and bright sprites race around clearly-defined levels, and there's no such thing as subtlety where the palette is concerned. The Amiga can display over 4000 colours and *Qwak* sure uses some of the brightest!

Playing the game is a real throwback to the days when all that mattered in a game was the way it played. Forget big graphics. Forget stereo digital soundtracks. All you need is fast and frantic action, responsive controls and challenging levels. *Qwak* has all three, which is why I have to keep walking away from my desk to play it every five minutes. [*We noticed. Ed.*] Ahem, well ,basically, it's an excellent little game, and one that's definitely well worth the asking price.

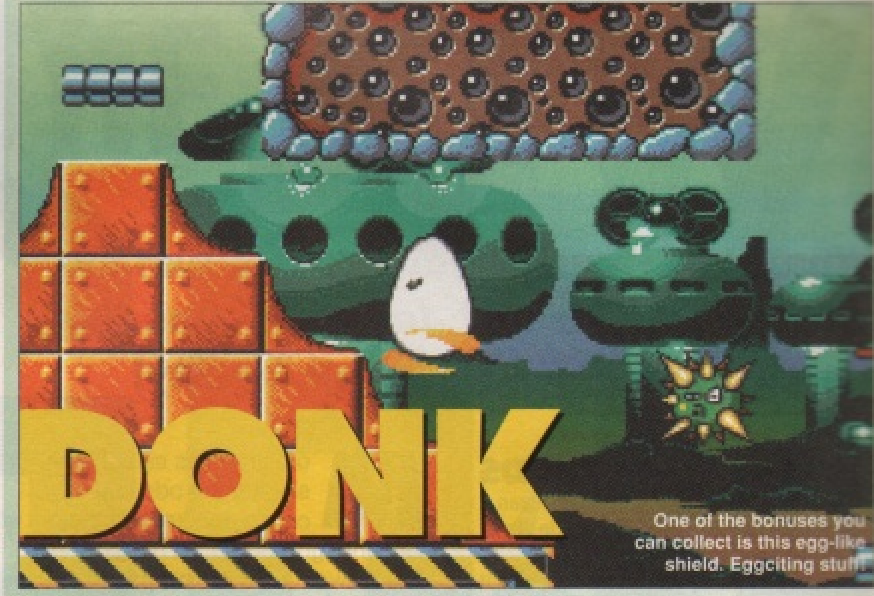
Tony Dillon

87%



As you progress through the game, the enemy just get larger and larger!

DONK



One of the bonuses you can collect is this egg-like shield. Eggciting stuff!

SUPERVISION OUT NOW £25.99

As Samurai ducks go, *Donk* is one of the hardest. He's seen his way through various name changes (i.e. the highly-suspicious *Dong*), he's suffered at the hands of collapsing companies and even endured price hikes. Now, he's landed safely in the hands of Waddingtons' subsidiary Supervision. Unfortunately, after all the shenanigans, it wasn't really worth the wait.

In its initial stages, *Dong* looked like a sure-fire winner. Somewhere along the line, though, this duck has turned into a bit of a turkey. I know it's a bad joke, but it's true.

In this one or two-player platformer, you guide *Donk* through the 112 levels which are spread throughout the watery kingdom, collecting gems and defeating bad guys. At the start of each level, you are told how many diamonds you need to collect to complete it. When you've collected the correct amount from the maze-like screen, you've got ninety seconds to get out before the area autodestructs! Each level has multiple exits and the entire game is held together in a self-building map, rather like the *Super Mario World* games.

Well, that's all the good points



Donk's only combat move is this strange spinning jump.

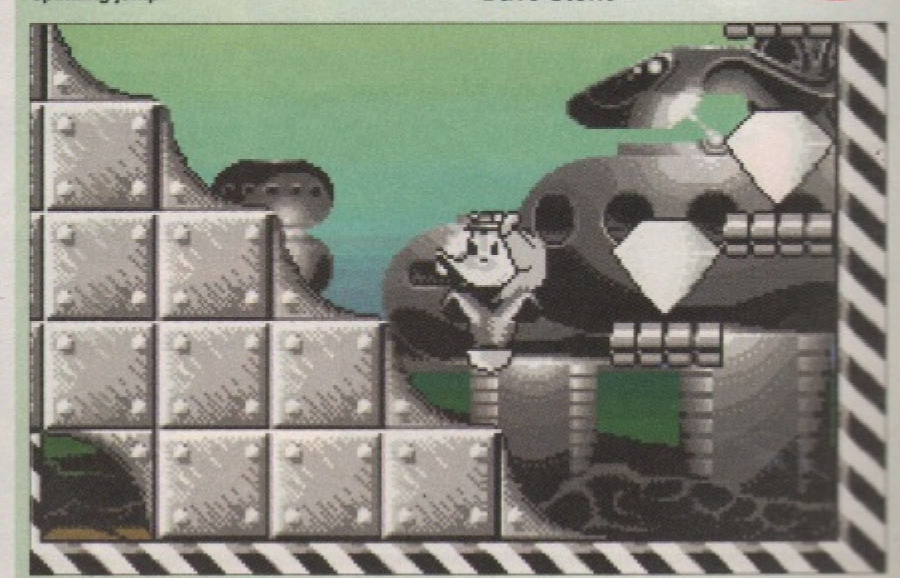
out of the way. The bad points are few but significant. For a start, the level designs are extremely questionable in places. Even something as simple as jumping onto platforms can be perilous. This is because the collision detection is pixel perfect and there is no margin for error. So, on one level, which has you jumping across a series of small platforms, it's far too easy to miss the edge leaving you to fall to the bottom of the screen and die. This can get very monotonous and after losing a dozen or so lives on this section, I began to get seriously annoyed.

Even the graphics are a hindrance. The backdrops are so bright and colourful that you can't tell which is scenery and which are the bits you can actually stand on. I lost count of the times that I innocently leapt upon a solid looking box, only to fall through it to my death.

It could have been so good as well.

Dave Stone





WIZ 'N' LIZ

What do you get if you cross a banana with an old wizard? Jon Sloan has the answer.... and it isn't at all smutty!

WASCALLY WIZARDS

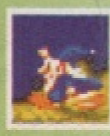
It's a tough job catching Wabbits. I mean, the furry little buggers don't seem to stand still for two minutes. But despite their long white beards, *Wiz and Liz* can really shift it when they want to. I reckon they're faster than Linford Christie's lunch box which isn't bad for a couple of OAPs. Anyway here's a brief display of Wiz at work.



Oh dear, he's got more chance of catching a cold at this speed. Perhaps he should change that wand for a zimmer frame.



'What's that? Did someone say there's an illegal Bingo game at the retirement home?' Old Wiz is beginning to pick up speed now.



OAPs only exhibit this speed when they're rushing down to the Post Office to collect their pension. Grannies displaying this kind of battle frenzy have been known to trample over anything in their way – children, pets, tall building, small villages, etc.



Sonic watch out! Wiz goes crazy whenever he changes direction in mid jump. It's funny but I can't remember my granny ever doing this, well maybe after a few sherries.

Most grannies sit at home sipping the odd cup of cocoa and knitting their favourite grandchildren hideous Arran sweaters. Not this pair though, *Wiz 'n' Liz* are an energetic couple of Wizards from the Planet Pum. They spend most of their time zooming around the planet doing all sorts of good deeds. It's a good job too 'cos there's a big problem on Pum – all the wabbits have been stolen by dark mysterious forces. And we all know that wabbits are an integral part of any magician's act, so *Wiz 'n' Liz* set out to save them.

To keep them from being found the wabbits have been scattered around Pum in places like Lunar Land, Grass Land and Desert Land. So, *Wiz 'n' Liz* must race around the globe picking up as many bunnies as they can find. Collecting the wittle wabbits is easy, simply run over them and they'll disappear – releasing a letter as they do so. The wizards must collect these letters to form a magic word which opens the level's exit. Collecting the wemaining wabbits will give *Wiz 'n' Liz* special bonuses in the form of fruits and stars. It's not as easy as all that though 'cos they're up against a timer which diminishes with every passing round. Added to that, after a few levels, you'll come up against a giant guardian who has to be bopped before you can go on.

After completing the level it's off back to a staging area where the stars can be used to buy hints, extra lives and more fruit. Why the obsession with citrus? It's not that they're veggies or anything, it's just that they need the fruit to mix together to make special spells. These spells can have mixed results depending on the fruit combination; some give you extra points, others open secret sub-games but others still give you zilch. The sub-games are generally twists on old classics, like wabbit invaders and snakes. There's even one where you throw rotten tomatoes at caricatures of *Puggsy*'s programmers (another Psygnosis game out soon).

Wiz 'n' Liz is a fairly simplistic game but enjoyable nevertheless. It's fast, frantic and at times challenging. The animations, both the wabbits and the wizards, are top notch and the in-game tune is suitably up beat. It really begins to shine though when you drag a mate along to play Liz and compete against each other in a split screen race to see who can complete the level first. Curses and insults will be freely exchanged as you nick each others magic letters and poach the fruit. However, the one-player game is bound to lose its appeal before too long. The levels simply don't have enough variety to keep your attention beyond a couple of goes. If you haven't got a chum to play with, apart from being pretty sad, there's not much here to keep you playing for too long.



These wabbits are smart! When you've almost completed the magic word the remaining wabbits will only release the letters you need.



You don't have to play the lands in any particular order. You can choose the one you want.



The game really lifts off when there's two-player action. *Wiz 'n' Liz* race against each other. One collects the grey wabbits the other the brown ones.

There are loads of weird backdrops in the game. Death doesn't figure at all, but it makes a pretty picture.

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RELEASE DATE:	DECEMBER
GENRE:	ARCADE
TEAM:	IN HOUSE
CONTROLS:	JOYSTICK, JOYPAD
NUMBER OF DISKS:	2
NUMBER OF PLAYERS:	1/2
HARD DISK INSTALLABLE:	NO
MEMORY:	1Mb

GRAPHICS	83%
SOUND	80%
LASTABILITY	74%
PLAYABILITY	85%

"Fast and fun, especially with two players. But lacks long term appeal."

OVERALL 79%

BLASTAR vs. OVERKILL

BLASTAR

CORE DESIGN OUT NOW £25.99



Spot the end-of-level guardian? Yes, it's the one centre screen. The foreground sprites are almost indistinguishable from the backgrounds.

Kill, maim, torture, disfigure... if only my mother knew I acted like this!

First up in this unique head-to-head challenge is *Blastar* from Core Design. It's a multi-directional shoot 'em up mixing in three different viewpoints for crucial parts of the game. At the start, there's a top-down view with your ship at the centre of a screen which rotates around you. Then, there's a standard top-down non-scrolling view for some end-of-level guardians. Finally, there's the usual side-on scrolling view for the remaining bosses. It's an odd mix which does confuse you initially. I've no idea why they chose to do it this way but it seems like an artificial means of extending game-play. The primary rotational view leaves you little time to spot enemies as you've only got half a screen's worth of space to see them before they smash into your ship. Fortunately, there's a scanner which helps, but only just.

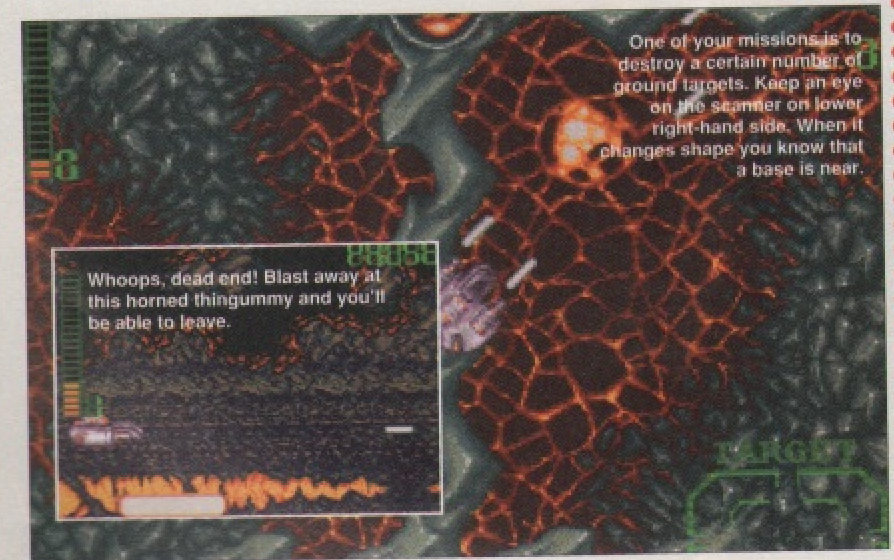
The coders have gone for a very alien backdrop which is similar to *Xenon II*. Although the background is well drawn, it ends up masking the ships attacking you making the ship's placement centre screen even more taxing. A bit more contrast between the background and enemies would have helped considerably. After you've blown up the requisite number of alien generators the ship is immediately whisked off to face the mother alien. Again, it's hard to spot the difference between background and enemy sprite. Once the mother alien is beaten it's onto more of the same before blowing off the covers to tunnel sections. It's here that you get the side-on view. I enjoyed this bit more than the main game so it's a shame that these sections are so short.

When you've progressed three levels and killed more aliens than a violent xenophobe would manage in a week, you get to visit the shop. No, there's no Mars bars or cool drinks on offer here. Instead, you get to choose from the latest snap-on alien megadeath weapons or ship power ups, providing you've got the money to pay. Basically, the more aliens you kill the more cash you have to spend on better weapons to kill even more aliens. What can I tell you, it's a vicious circle. All in all, there's five levels of super violent alien blasting to keep you occupied (and that's not counting the sub-levels). Enough for even the most jaded sadistic killer.

Blastar's not a bad game, it's just that it's not that good either. There's little to be gained zooming around the screen blasting everything in sight. For one thing you won't last very long, for another you'll never see the ground-based installations that you're supposed to be blowing up. Caution is the name of the game here. Personally, I prefer the action to be a bit more frantic. I got to grips with the rotational thing but I still prefer a more traditional scroller. Which is why *Overkill* gets my vote.

Jon Sloan

78%

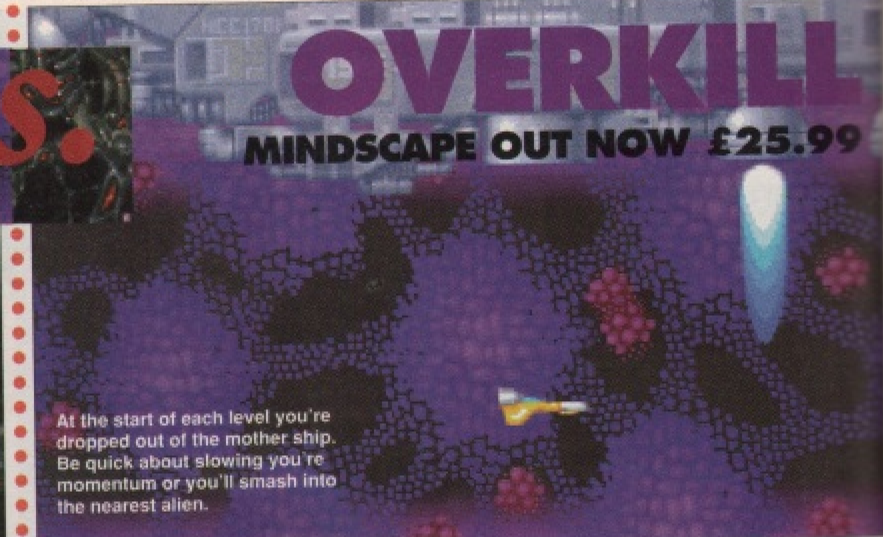


One of your missions is to destroy a certain number of ground targets. Keep an eye on the scanner on lower right-hand side. When it changes shape you know that a base is near.

Whoops, dead end! Blast away at this horned thingummy and you'll be able to leave.

OVERKILL

MINDSCAPE OUT NOW £25.99



At the start of each level you're dropped out of the mother ship. Be quick about slowing you're momentum or you'll smash into the nearest alien.

I remember late nights in the coffee bar at University desperately trying to master *Defender* just so's I could show off to my friends. It's a pity I never got the hang of it – too many buttons see. Anyway, Mark Sibly, the guy responsible for *Blitz Basic* and *Woody's World*, must have had the same problem 'cos he's put together the perfect version for spuds like me. One joystick to steer, one button to fire and hit space for a time sensitive shield. Perfect.

The idea in *Overkill* is to drop a team of assault marines onto a planet's surface and then help them get to the deposits of Trilithium crystals so that they can be destroyed before the aliens pick them up. Apparently, these crystals have a mutating effect on the bad guys, transforming them into even more dangerous beasties. So, catch the marines as they parachute in, pick them up when they signal, and meanwhile blast every green nasty that comes your way. Of course, it's not as simple as that. After Level One these aliens are no push over. Not only do they hover up and down they also chase you and turn into bloody huge worms that take loads of hits to kill. It gets very tough very rapidly. To help you along the aliens will occasionally drop weapon power-ups giving the ship a faster laser, three way fire, napalm, nukes... you get the idea.

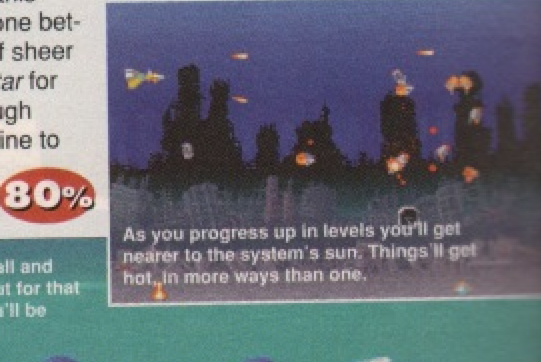
This is one of the first true AGA-only games so it's a visual and aural treat. Well, almost. The intro music is a pulsing heavy metal beat which, sadly, doesn't carry over into the main game. The spot effects though are suitably spooky. As for the graphics, the backdrops are super smooth with an exquisite double parallax effect on the second level. This is how shoot 'em ups should look! However, the main sprites, both your ship and the nasties, could have done with a lot more work. The marines, in particular, look like refugees from a Lowry painting.

Niggles aside, the playability is top notch. The whole thing is so slick with your ship gliding along and performing the ubiquitous 180 degree turn like a pro. The aliens chase you with deadly polished precision. The difficulty curve is pitched just right – you'll soon progress beyond Level One but after that you'll need to really hone your joystick skills to push further. Also, there's a good variety of aliens to destroy, each with their own characteristics. However, I would have liked to have seen some bigger bosses but you can't have everything.

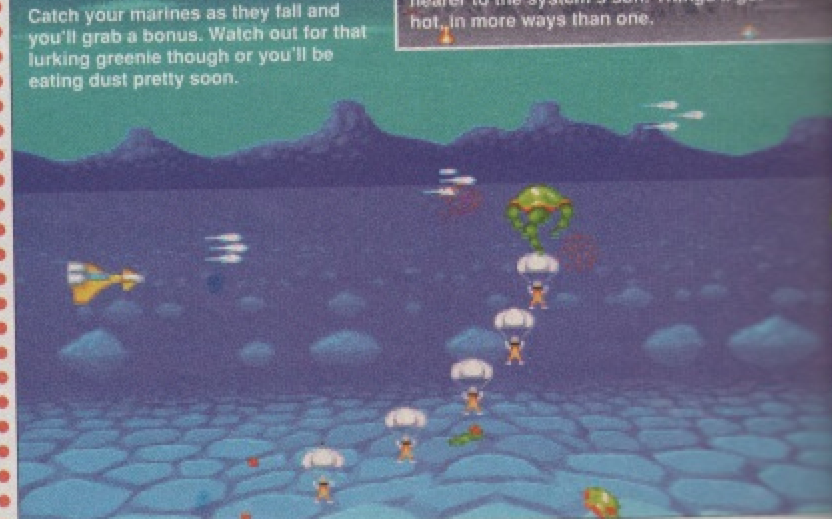
Overkill is not perfect, this type of game has been done better before. But, in terms of sheer playability, it knocks *Blastar* for six. Better remember though you'll need an AGA machine to play it.

Jon Sloan

80%



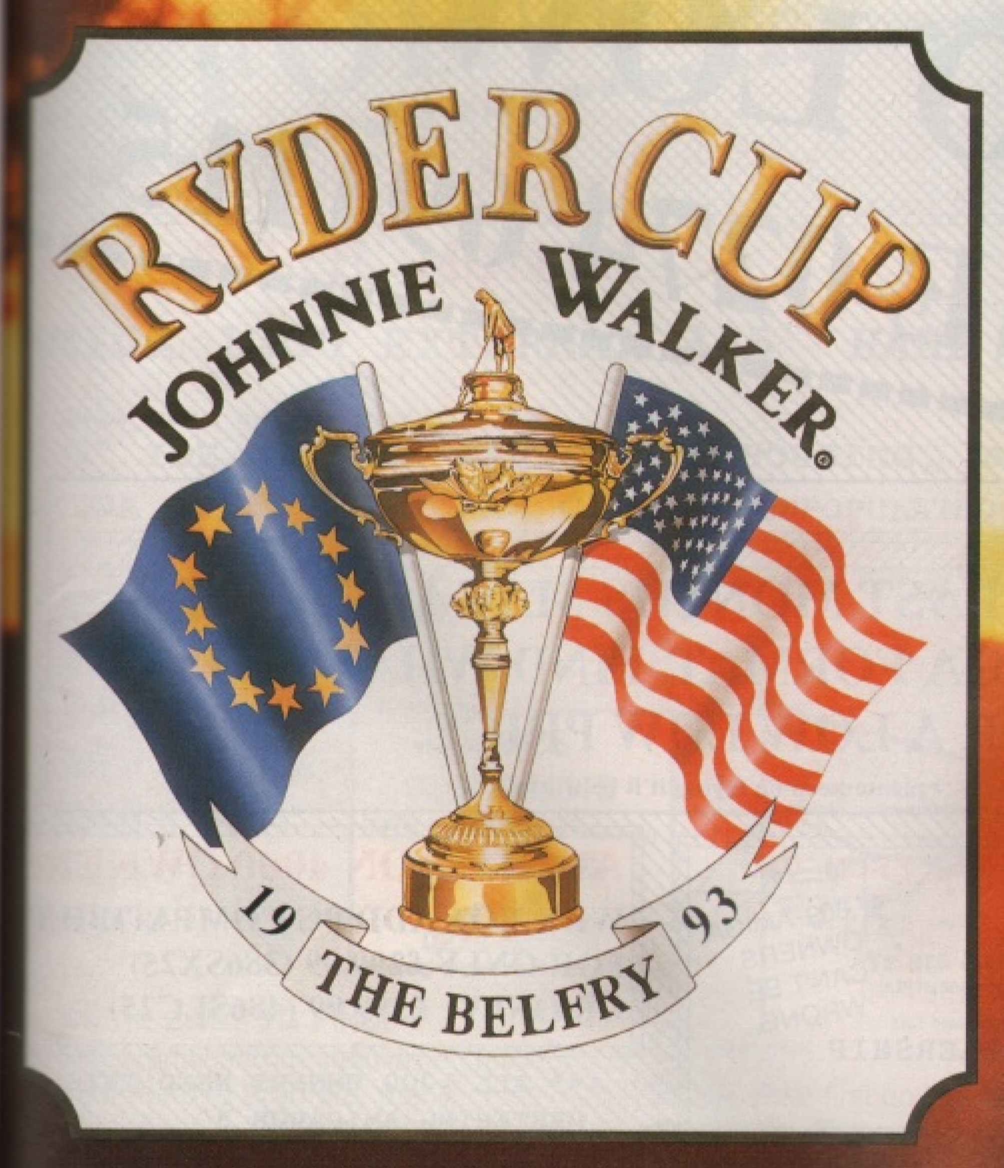
As you progress up in levels you'll get nearer to the system's sun. Things'll get hot, in more ways than one.



Catch your marines as they fall and you'll grab a bonus. Watch out for that lurking greenie though or you'll be eating dust pretty soon.

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TURRICAN 3



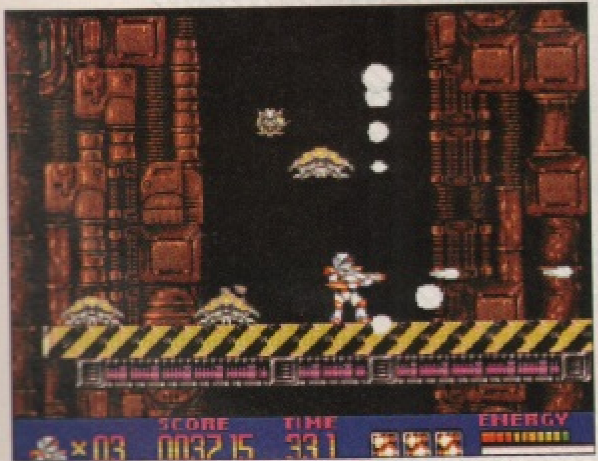
One of the most addictive shoot 'em ups ever to grace the Amiga has been wheeled out of retirement for a third outing. Dave Stone managed to get a day pass from the Home for Retired Games Players to check it out...




The bleak *Terminator 2*-style future world has a whole host of Guardians to beat.


This wobbling marshmallow is probably the easiest Guardian to overcome.


Using your new grappling hook, you can reach previously inaccessible areas of the game.


These flying pancakes warp onto the screen unexpectedly.

It might have been only three-and-a-half years since the first *Turrican* game appeared on the Amiga, but it sure as hell feels like a lot longer. At the time of its release, it was hailed as one of the Amiga's top shoot 'em ups – even if it was a fairly derivative blast. The idea was to guide an armour-suited soldier around a series of platformed levels, taking out as many alien nasties as possible. To do this, you were armed with an unfeasably large gun which could be transformed into a variety of weapons depending on which of the game's many power-ups you opted to pick up on your travels. The arcade-quality feel to the game, coupled with some gob-smacking graphics, explosive sound effects and excellently-designed levels, made for a frantic and incredibly addictive blast.

The following year, *Turrican 2* hit our screens. Adhering to the same formula as the first game, the action was even more fast'n'furious than its predecessor, with more varied enemy sprites, better attack waves, gigantic end-of-level guardians, and even bigger levels to blast your way through. Then, with the advent of console-mania, the team behind the games, Factor 5, turned their attention to pastures new and the long-awaited third game in the series was quietly shelved.

Now, after realising the error of their ways, the German-based developers have unveiled the third *Turrican* outing. Even better, although they've kept the basic gameplay traits of the first two blasts, the team have radically revamped the new game and given it fresh vitality by significantly tweaking the level design, upping the number of alien nasties to slaughter, and making things even more frantic than before.

On booting up, the first thing you're treated to is an animated intro, which fills you in on what's happened since the end of *Turrican 2*. The evil bio-mechanical monstrosity known only as The Machine has embarked, once more, on a course of galactic domination, ruthlessly destroying entire solar systems in the pursuit of power. Unfortunately, as the United Planets' most decorated war hero, it's up to you to save the day and give the alien ruffian a jolly good seeing to. After 'volunteering' for such a deadly mission (i.e. everyone else took a step backwards when you weren't paying attention), it's off to the intergalactic equivalent of a 'phone booth to don the famous Turrican armoured exo-skeleton and kick some alien ass.



FIVE ALIVE

The action is set across five increasingly difficult levels, each made up of three separate zones. Infesting each one is a battalion of The Machine's robotic minions, plus some bizarre biologically-engineered life forms, each one capable of soaking up a number of shots before they keel over and die. Most are eight-way scrolling affairs, set over huge expanses, although some involve single screen encounters with some of the game's larger adversaries. Luckily, your assault suit comes equipped with enough fire power to level a small city single-handedly, but you must make sure you constantly replenish your supplies as the game progresses. Once you've located one of the game's many ammo dumps, you can take your pick from multi-shot guns, lasers, homing missiles, rebound shots and a useful body


You'll need all your weapons to defeat this big mental mutha!

WHO DO FACTOR 5 THINK THEY ARE?!

You might not recognise the Factor 5 name, but you'll almost certainly have played one of their games. Formed in 1987 by five computer enthusiasts, the team set out to write arcade-quality games for the Amiga. Their first release was *Denaris*, a straight forward shoot 'em up in the style of the then popular *R-Type* coin-op. Due to the enormous success of *Denaris/Katakis*, the Irem corporation commissioned the team to write the offical conversion of *R-Type* for the Amiga, which came out in 1988. From there, Factor 5 went on to design Turrican (1990) and *Turrican 2* (1991), both of which received massive critical acclaim from the computer press. *Turrican 2* was premiered at the Cologne computer show and the game caused a full-scale riot! Only 900 demo disks were made available to the public and in the resultant clamour for copies, two people were actually hospitalised. After that little episode, the team turned their attention to the Super NES and Mega Drive, starting work on *Super Turrican* and *Mega Turrican*. Perhaps F5's greatest achievement was the Amiga conversion of *PC Kid* from the PC Engine. Renamed *BC Kid* for the Amiga market, the game was released by UbiSoft last year and was rewarded with a sought-after CU Amiga Superstar.

Now that they've got *Turrican 3* under their belts, the team are turning their attentions back to the SNES for *Super Turrican 2* and an as yet undisclosed new game project in association with a top movie company.

shield. Along with these goodies come extra lives and a heart-shaped icon which boosts your suit's energy levels to maximum power.

As well as all this firepower at your disposal, you also have access to three smart bombs per level – these spew out a concentric circle of bombs that clear the screen of all but the largest enemies.

Each level adopts a particular theme. The first involves exploring the corridors of an alien hatchery, killing the baby face-huggers, and collecting as many point-scoring gems as possible. If this level looks familiar, that's because much of it is based on Sega's Mega Turrican game from last year. The best bit here is when you've blasted through the first zone and then have to contend with a swarm of alien nasties which dive down from above. There's nowhere to run, so you've got to polish off each enemy sprite as it flies in. Miss one and they block your path, so it's possible to get hemmed in very quickly and become a sitting duck. Once you've destroyed the end-of-level guardian, which looks suspiciously like a wobbly marshmallow, it's on to level two. Here the mood and music changes to reflect the dark and damp environment. We're deep into one of The Machine's research stations now, and much of the stage actually takes place beneath the waterline. This isn't much of a problem for our hero, however, as his assault suit comes with a built-in oxygen supply.

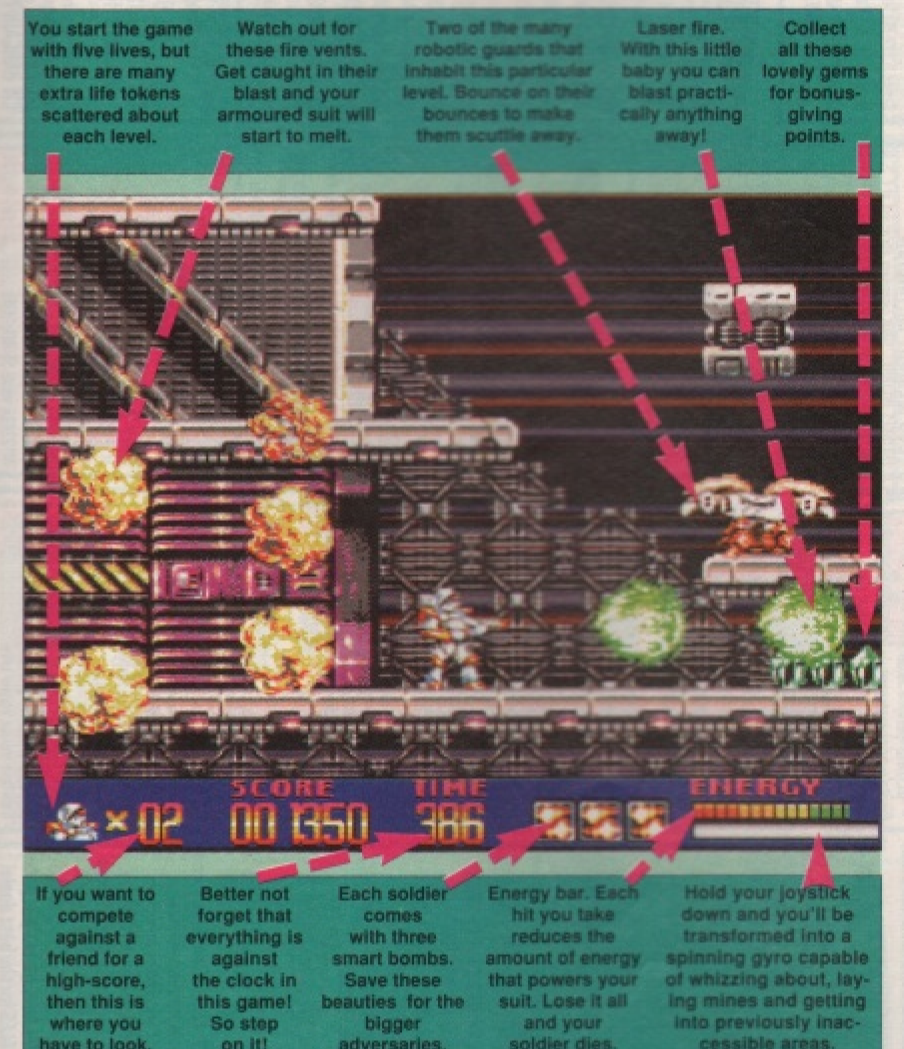
Unfortunately, the place is absolutely crawling with all manner of mutated beasties, ranging from huge crab-like creatures to deadly manta rays. There's also a series of electrical storms hitting the area which come down like sheet lightening, zapping your suit's energy reserves. Lose too much energy and your body armour will eventually explode, causing you to lose one of your five lives.

The third level uses a graphical style akin to the *Terminator* Coin-op in that most of the colours are silvers and greys, giving the battle-scarred alien landscape a bleak and foreboding look. Set against a backdrop of a ruined city, birds of prey hover in the air waiting to swoop down and tear you to bits with their talons. There are even sky-borne assault craft which sweep the area with their searchlights, and which then unleash a volley of shots once they've located their targets. More than any other level, this one is absolutely packed with huge enemy sprites, and they're also the most difficult to overcome, so expect to lose plenty of lives in this section. The fourth level is a typical *Giger*-inspired *Alien* pastiche (how original), with body huggers that attach themselves to your face mask and suck the energy out of you. The only way to defeat these is by using up your precious smart bombs, or blasting them before they can leap up at you. There's also a tricky wagon train section in which you have to leap from section to section. This doesn't sound too difficult until you realise that the screen is constantly scrolling, so if you take your time you'll be pushed along, and pressured into making an untimely leap to your death. Of course, while you're trying to do all this, a whole host of alien uglies are after your skin, too. The end of level guardian in this section is a huge Alien Mother who is out to revenge the deaths of her siblings, so watch out.

By the fifth level, the pace has been cranked up another notch or two. Your super soldier is now deep into The Machine's futuristic lair, and the bad guys come thick and fast. Huge Walker-like sentries fill almost the entire screen and you'll need maximum fire power to overcome this lot. After wading through screen after screen of complete and utter mayhem, it's then on to a final encounter with The Machine, a huge bio-mechanical monstrosity that fires laser bolts from its eyes and bristles with all sorts of deadly armaments.

TAKE CONTROL

Here's a whistle-stop guide to what's going on in *Turrican 3*.



You start the game with five lives, but there are many extra life tokens scattered about each level.

Watch out for these fire vents. Get caught in their blast and your armoured suit will start to melt.

Two of the many robotic guards that inhabit this particular level. Bounce on their bounces to make them scuttle away.

Laser fire. With this little baby you can blast practically anything away!

Collect all these lovely gems for bonus-giving points.

If you want to compete against a friend for a high-score, then this is where you have to look.

Better not forget that everything is against the clock in this game! So step on it!

Each soldier comes with three smart bombs. Save these beauties for the bigger adversaries.

Energy bar. Each hit you take reduces the amount of energy that powers your suit. Lose it all and your soldier dies.

Hold your joystick down and you'll be transformed into a spinning gyro capable of whizzing about, laying mines and getting into previously inaccessible areas.

HIGH WIRE ACT

Apart from the new weapons under your control, one of the best innovations is the use of a grappling hook to reach previously inaccessible areas. This is fired from a separate gun and once it has become attached to a solid object, its simply a matter of swinging from side to side to build up enough momentum to reach the new platform. Alternatively, it's possible to reach a much higher platform by climbing up the wire and then leaping to safety. It's an effective new tool in Turrican's armoury, but because it's triggered by holding down the joystick fire button, it can be triggered inadvertently.

Each stage is set against the clock. You might think that you've ample time to finish a level, but you'd be surprised at how quickly the clock counts down. Leave everything too late and you'll witness your man crumpling to the ground as his body armour explodes. Luckily, there are lots of extra life tokens littered about each level – too many in fact, as I found I was rarely in danger of having to quit the game and start again. There are also a number of level restart points and three sets of continues, so they've really given you every chance of completing it. Admittedly things get a little hectic when you choose the 'maniac' difficulty level, but on normal play it's possible to complete the game in under an hour if you're any good.

You've got to make this Octopus 'armless to proceed to the next level.

That's not a major criticism, though. The harder difficulty levels increase the resilience of the aliens as well as their intelligence, so you get more of a game for your money. Overall, *Turrican 3* is a quality blast, with inventive levels, a good arsenal of weapons at your disposal, and some excellent graphical touches. The first two games suffered from rather mechanical lego-like level design whereas this new offering provides five distinct levels, all of which are highly imaginative in their layout and the challenges they set. There aren't many Amiga shoot 'em ups this good on the market. CU

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TEAM:	FACTOR 5
CONTROLS:	JOYSTICK, JOYPAD
NUMBER OF DISKS:	1
NUMBER OF PLAYERS:	1
HARD DISK INSTALLABLE:	NO
MEMORY:	1Mb

GRAPHICS	89%
SOUND	80%
LASTABILITY	75%
PLAYABILITY	88%

"Maybe too short, but definitely the best in the series so far."

OVERALL 85%

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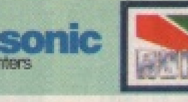
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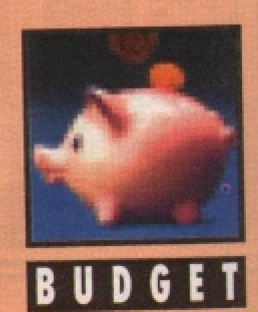
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BUDGET

HARD DRIVIN II

HIT SQUAD £9.99

Not to be confused with the coin-op sequel *Race Drivin*, *Hard Drivin II* is a revision of the original simulator that's never appeared in the arcades.

At first sight, it looks almost exactly the same as *HD1*. Select the first track from the menu, and you're plonked into the seat of a Ferrari F40, which actually looks more like a Lada, so you'll have to use your imagination a bit. The track looks strangely familiar, until you realise that it actually is the same as the original *HD1* track. It's not as bad as it sounds though, as there are another four tracks to choose from. They're not radically different from the first, with no new features or obstacles, but they do inject a bit more variety into the game.

If you still want more tracks, you can design your own with the circuit editor. You get to play with all the main objects, like the broken bridge, the loop, and scenery such as barns and houses. The rest of the track is made up of straight and curved sections of road. There's no reason why this couldn't have been a very quick and simple process, just like setting up a Scalextric set without having to fiddle about joining the bits together. Unfortunately the editor doesn't have a 2D mode, and instead runs in 3D, which makes the whole thing agonisingly slow to use. Just altering an existing track is a mission – building one from scratch doesn't bear thinking about, especially as the result would be little different from the others on the disk.

On the matter of gameplay, it's indistinguishable from the original game. In other words, it's very slow running on anything below an A1200, to the point where it becomes frustratingly unresponsive. There isn't much competition in the car simulation field, but compared to its closest rival, *Stunt Car Racer*, *HDII* is far slower, more limited, and loses out in the playability stakes by quite a margin. Even so, if you've got an accelerated machine, don't mind putting up with a few bugs, and don't already have the first game, *Hard Drivin II* could provide a pleasant distraction for a few hours.

Tony Horgan

68%







GRAND PRIX CIRCUIT

HIT SQUAD £9.99

If you want the thrills of high-speed car racing, without the bus-jumping stunts of *Hard Drivin II*, *Grand Prix Circuit*'s Formula One simulation could be just the thing.

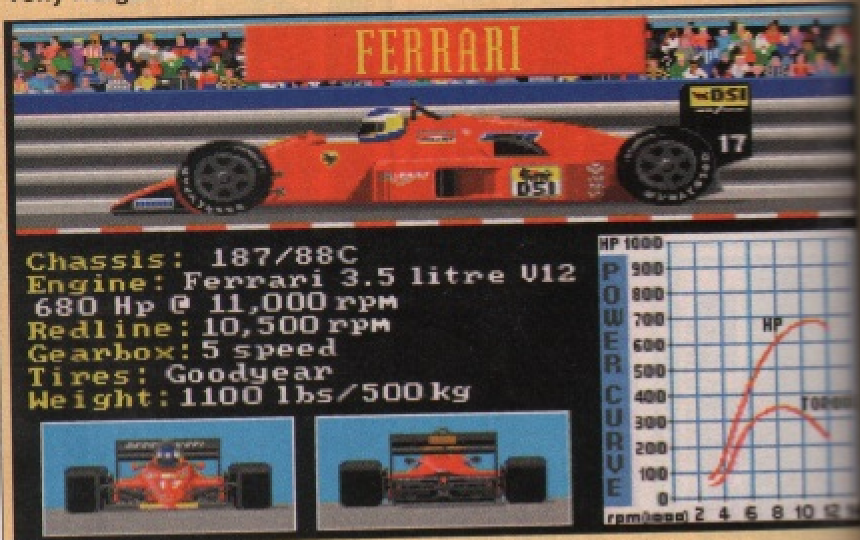
As F1 simulators go, *GPC* isn't a bad effort. It was first released in 1989, and has since been ousted by Geoff Crammond's *Formula 1 Grand Prix*, but on the surface *GPC* has most of the features offered by the premier racing game. There are skill levels ranging from Rookie to Pro, and you get to race a Williams, Ferrari or Maclaren around eight circuits. There's qualification, pit stops and all that kind of stuff too.

Speed is the most important factor in any car racer. If the program runs too slowly, the control-response is delayed, and even though the dials might register 200mph, it's no use if you feel as if you're driving a tractor. *GPC* isn't too bad on this score (considering its age), but the sensation of haring around a squiggly bit of tarmac doesn't quite come across. Also, if you're after realism, you may be a little disappointed. The streets and flyovers of Monaco have been reduced to green plains, and there are no exterior views, although you do get the bonus of tunnels now and then.

Overall though, it's let down by the plodding gameplay. Passing cars can be a bit of a hit and miss affair, with you at the mercy of the joystick response. When there are no other cars around, there's not enough exhilaration to stop it becoming a tedious trudge around a series of similar tracks. Then again, that's the view of a speed freak. If you're after a simulation rather than an adrenaline rush, there should be enough detail and depth to keep you engrossed for some time.

Tony Horgan

65%



RE-RE-RELEASES

If that lot isn't cheap enough for you, take a look at these re-released re-releases on the Games Worth Playing Label, all going for a crazy knock-down real budget price of only £2.99.

STORM MASTER

An attractive graphic adventure strategy game, *Storm Master* breaks away from the main RPG and adventure formats, carving a style all of its own. This is mostly down to the presentation, and deep down the gameplay is a kind of *Defender of the Crown* style management-war game, even if the graphics aren't up to the same standard.

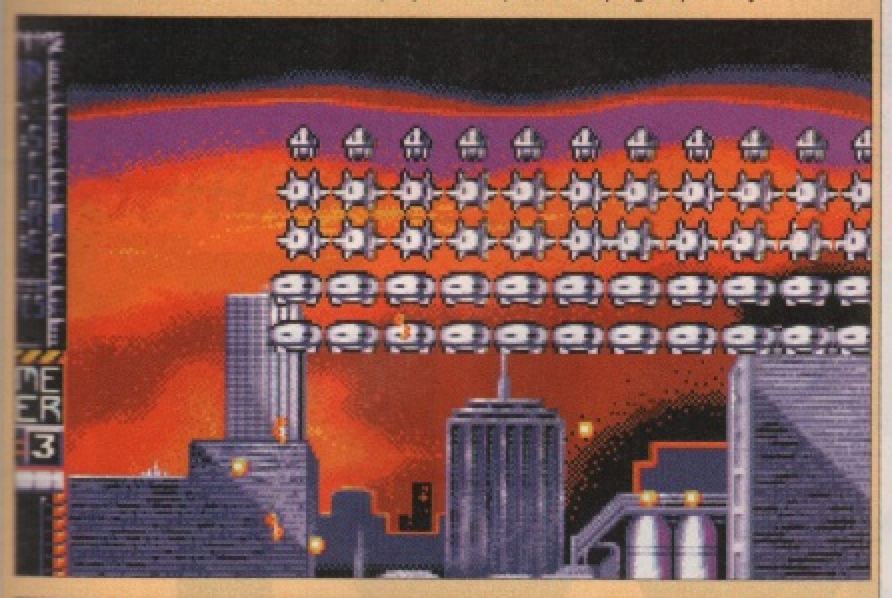
Not a classic by a long shot, but at the price it's not bad at all.

SUPER SPACE INVADERS

HIT SQUAD £9.99

Innovation eh, ain't it a wonderful thing? It seems like only fifteen years ago that we were getting all wet around the nether regions about this new thing called *Space Invaders*, but how things have changed since then...Now we've progressed to *Super Space Invaders*!

Hang on a minute though, hasn't the 70s revival been and gone yet? Unfortunately, it seems not. Just as we're being flogged tacky platforms and flares, we're also being served re-heated scraps from the coin-ops of yesteryear, albeit with a dash of spicy ketchup and a sprig of parsley.





The parsley and ketchup manifest themselves in a number of ways. First of all, there's the flashy intro sequence, which documents the alien invasion with a neat little cartoon. Then there are the different level scenes. Some are static backdrops, but others jerk down the screen in real vomit-inducing style. Each level has its own aliens, with slightly varied attack waves and a few mother-ships now and again. The trouble is, none of the new features add anything to the game. It's slow, jerky, and it's lost the feel of the original. At least it still has the old sound effects.

If you want a new shoot 'em up, you'd be far better off with something like *Overkill*. If you want *Space Invaders*, just take your pick from the multitude of PD versions.

Tony Horgan

40%



SHADOWLANDS

HIT SQUAD £9.99

RPGs are just getting better all the time, and even if you don't have the cash to get them all as soon as they come out, the better ones are now filtering through to budget level. *Shadowlands* is one of these games.

Those who like to read little stories about places with unpronounceable names will get straight into the pre-instruction waffle. Those who can't be bothered with all that can get straight into the game, thanks to a brief overview that explains how you're searching out The Keeper (the undead guardian of your physical self). If you can manage to kill him, you and your mucho bad self will be reunited, and you can skip off hand-in-hand into the sunset.

So that's the plot waffle, now you can get onto the game itself, which is a very presentable mouse-controlled RPG. All the stats and characteristics you could want are there, and the adventure itself is pretty chunky. The control method isn't the best, but the point-and-click system works well once you've sussed out the basics. If you want a good involving adventure with plenty of atmosphere, you can't really go wrong with this.

Dave Stone

82%

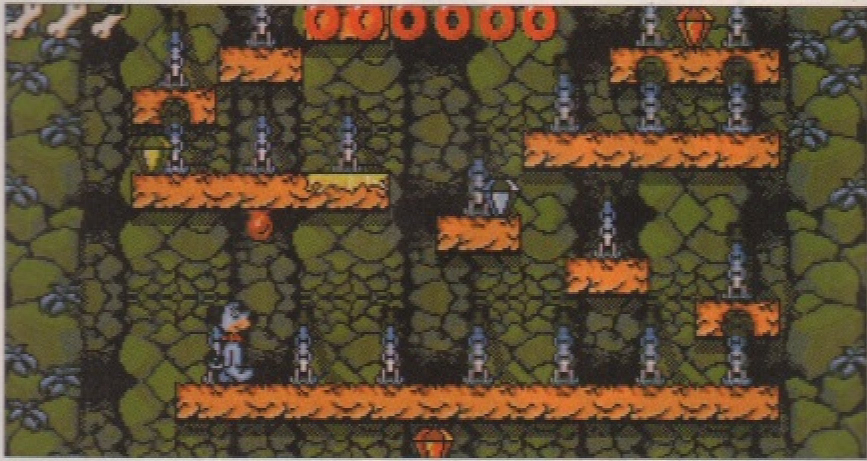
HUCKLEBERRY HOUND

ALTERNATIVE £9.99

If there was an award for the worst use of a character license in a platform game, this would walk away with it, no problem. The revolutionary gameplay has you scaling platforms, collecting diamonds and dodging drips of gooey stuff. It's horrifying to think that someone actually programmed this, and then had the front to release it.

Dave Stone

20%



BOSTON BOMB CLUB

Take *Pipemania*, add some unexploded bombs and a 19th Century Boston scenario, and this is what you'll end up with. It's very easy to pick up, and the first few levels aren't too taxing.

If you like a bit of a puzzle, this should keep the boredom at bay for up to minutes at a time. Is it addictive, I hear you cry? Sorry folks, not really, but it is fun in small doses. (honest gov.)

SUPERSKI 2

Oh this year we're off to sunny..er... Switzerland. Okay, it's not sunny but you can ski there. *Superski 2* gives you six snowy ski-ing stages (this issue of was brought to you by the letter 'S'): some of the most protracted control systems ever devised have been included in this game, which makes most of the events completely unplayable. It's also has a stupid loading system that slows every-thing down to a crawl.

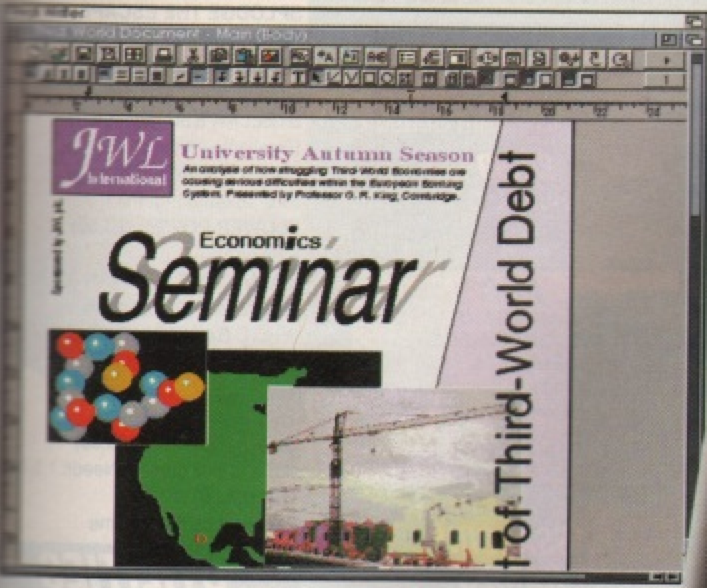
CRYSTALS OF ARBOREA

Crystals of Arborea is yet another cheapo RPG game. It's a kind of open-air *Dungeon Master*. It also was the forerunner to *Ishar*. Although, at first, the 3D graphics seem to be a boon, they end up hindering the gameplay, as there's no animation between moves, so you get lost very easily. Thankfully, you can switch to a 2D view. If you can handle the fiddly bits, there's a lot of adventuring here for your three quid.

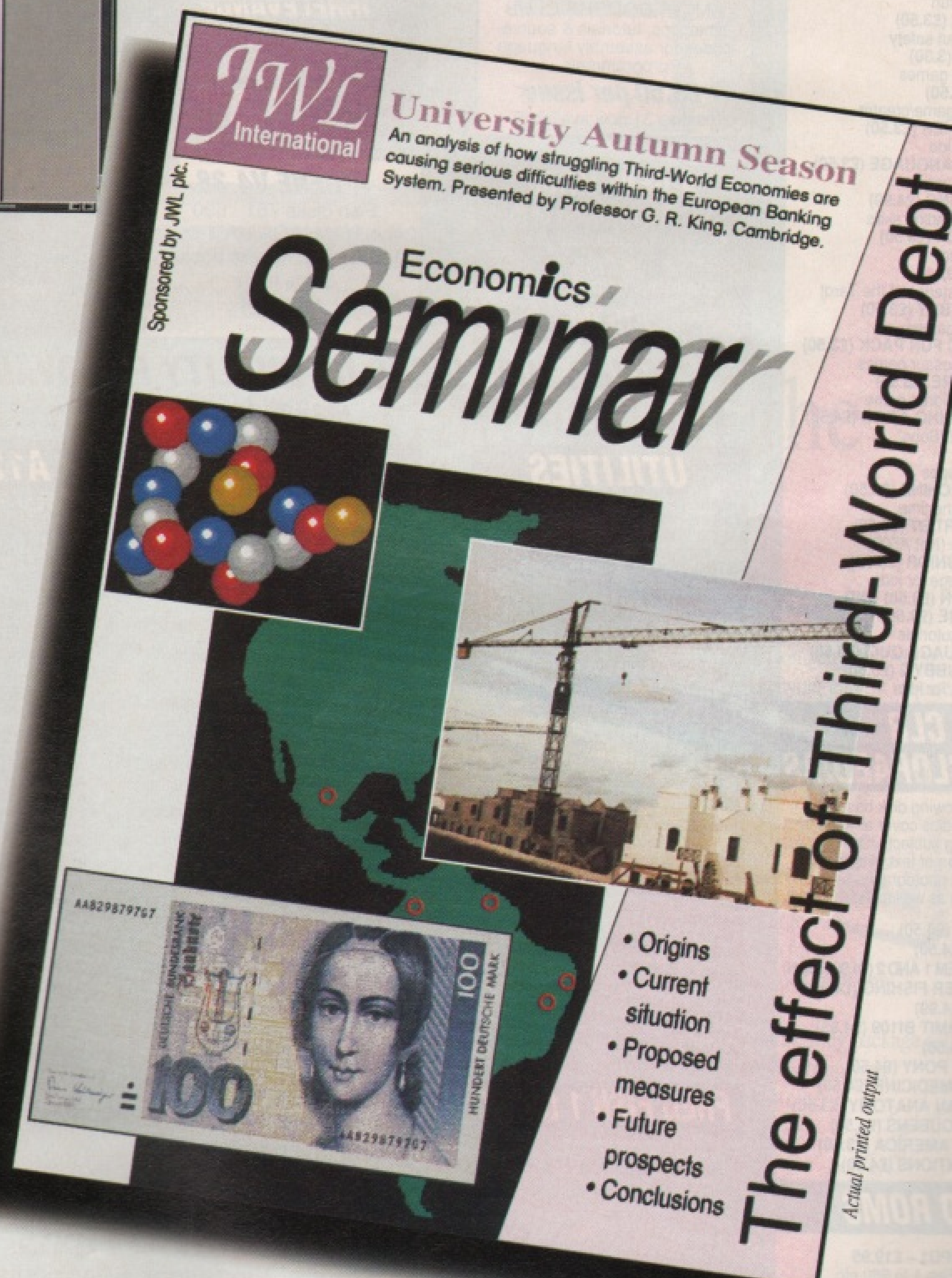
STARBLADE

This is one of those games from the Amiga's earlier years (You remember the good old days when you could leave your front door open and not be burgled, assaulted or ran-sacked, the streets were safe...) [*that's enough–Ed.*] *Starblade* is a pitiful attempt at a sci-fi arcade adventure. Stringing together a few dull screens, with a robotically-animated central character, it fails on all counts. Give this a miss.

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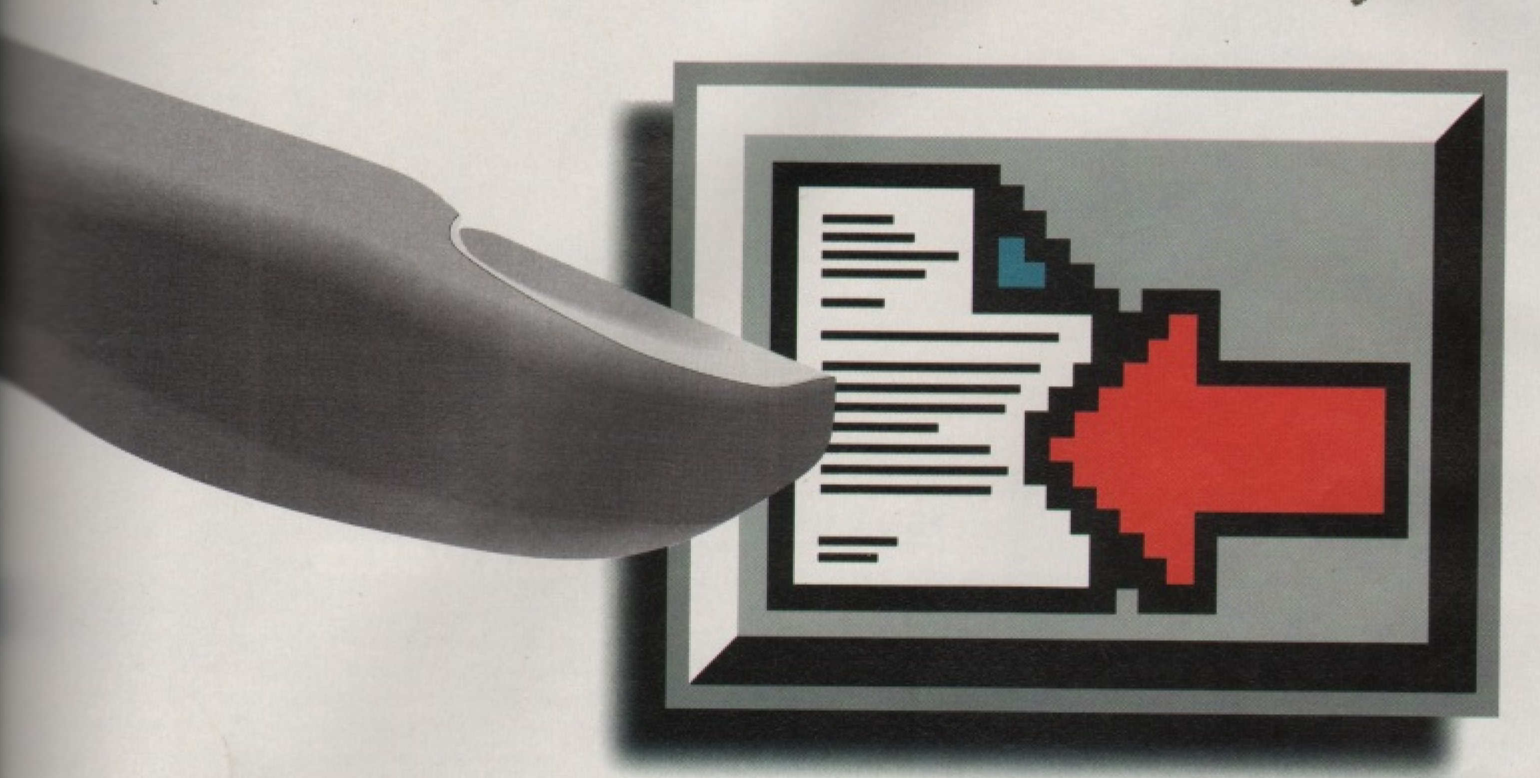
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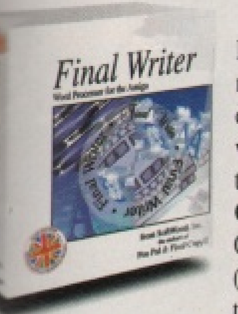
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CUA

Adventure Helpline

Isn't this a scream? I've always wanted to be an Agony Aunt, and now I've got my own torture chamber. Oooh, I'm going to have such fun with all of you. And it's all going to be done in the best possible taste! So for all you adventure types out there, pull up a chair, sit real close, and take my advice like a man.

OI! WHERE'S TROLL'S HEAD GONE THEN?

The more astute readers amongst you will probably have noticed that Adventure Helpline has replaced our usual adventure column: The Troll's Head. The reasons for this are many, but take it from me, Tony Gill doesn't look half as good as Vampyra in thigh-length leather boots. Also, she's much, much cheaper than Tony in every possible sense of the word, so we just had to give her a column all to herself.

LOOM

Dear Vampyra,
I am having trouble with *Loom* from Lucasfilms. I am in a cave beside a pool. I know how to drain the pool, but I don't know what good that will do me. Do you know what I should do now?

Paul Maxwell, Renfrew.

Well darling, I don't spend much time lying beside the pool myself because the sun plays hell with my skin, besides, I'm more of an indoor person. Pools can be so useful for keeping pets like piranhas, gators and so forth, but in this case I think you are right and you might as well drain it. Before you do that, you really should look at the water first as you will be able to learn the 'reflection' spell.

Unfortunately, that bit was a bit difficult for me as I don't have a reflection. Once the pool is drained you'll find a crystal sphere which you can look into three times to see what the fates hold for you.

Having done that, you can leave the cave by exiting to the right. I do recall that actually moving out of the area was a fiddly exercise, but you just need to be very persistent.

WAXWORKS

Dear Vampyra,
I'm on the third level of the pyramid in *Waxworks* from Horrorsoft, and I can't solve the puzzle involving the pot and the rope. I know that if you pull the rope, the stone carving at the other end of the room rises to reveal a passage, but it closes whenever I move towards it. How do I stop this stone carving moving?

Jamie Davies, Maesteg.

Let me get this straight: pulling it solves the problem for a little while, but when you let go, the problem comes back. Hmm... Perhaps you need someone to pull it for you. [Memo to Lisa. Get the company lawyers to 'carefully' check this bit out before we use it –Ed.] As there's no-one to help out, you'll have to make do with a pile of sand. (I know it gest everywhere and can be damned uncomfortable but it's the best I can suggest, honey). Fill the jug with two piles of sand and the weight will hold the rope down till you get through.

BANE OF THE COSMIC FORGE

Dear Vampyra,
I have found the rusty plate which is opened using the mystery oil in *Bane of the Cosmic Forge*, but I can't work out the combination. Also, how do I get Charon to take me to the Isle of the Dead? I gave him two cans of ashes, but to no avail.

Terry Dooher, Leicester.

You gave Charon two cans of ashes! You sure know how to throw a party! If you wanted to get to the Isle of the Dead you should have popped round to see me. I would have got you a first-class ticket and you would have gone with a smile on your face. You don't need to give Charon ashes, he will take you on the ferry if you pay him a fee.

When you have found three Cylinders of Ashes, give them to Charon and he will give you the Key of the Dead. The location of the ashes is a random affair so you are just going to have to look carefully.

The answer to the bridge mechanism is found using the dictionary, but here is the sequence: Safety, Pump, Coilwrap, Truss, Safety and Winder.

INDIANA JONES AND THE LAST CRUSADE

Dear Vampyra,
I'm having a serious problem with Indy in *The Last Crusade*. You see, I cannot get past the ticket collector on the Zeppelin because I do not have enough money to buy a ticket. I think the problem centres around the travel pass, but I cannot get anyone to sign it so it's invalid.

Andrew Szymanski, Northants.

I just loved the Indy games – all that macho running around and sweeping girls of their feet just makes me go weak at the knees. I love the way this game can be played in more than one way and I do like to try everything from as many different angles as possible!

When you escaped from the castle did you take a trip to Berlin? If you did, you can hand your travel pass to Hitler and he will sign it for you.

When you arrive at the airport you can escape in one of two ways. You can either get Henry to have a conversation with the man holding the newspaper while you pick his pocket, or you can forget about the Zeppelin and head straight for the biplane which stands outside. Get in quickly for you only have a few moments to work out how to start the engine and take off before the evil Hun arrives. If you found the book on flying in the Italian library you should have no trouble working it out.



EYE OF THE BEHOLDER

Dear Vampyra,
I've just finished *EOB* and thought you would like to know how to solve some of the special quests. I've worked out eight of the 12 and I'd appreciate your help with the other four.

Level 1: Replace two scrolls on the shelf with a dagger to receive a magical knife.
Level 2: Put a knife in each of the knife-shaped holes in the walls to make food appear.
Level 3: Put blue gems in the eye holes then take them out again.
Level 4: Line up the shifting wall blocks, then pull the chain.
Level 5: Fill the pantry shelf with small rations to get them changed to large rations.
Level 6: Put all the Kenku eggs in the nest room to open a secret area containing a +5 Halberd.
Level 7: In the room with the five portals, fill the shelves with the key that activates the portal directly opposite.
Level 10: In the room with three shelves and four Mantis, put Kenku eggs on the shelves to make four more kenku appear, each carrying magical rings.

Neil Archer, Wolverhampton.

You dear sweet thing, deserve to have your dearest wish granted, but that would get us both in trouble, so instead here are some clues to the other quests.

There are 12 special quests, one on each level. Each time you complete one of these quests a chime will sound and you will get a special message.

***Level 8:** 'Ancient traps may be turned to your advantage.'*
***Level 9:** 'Where it is written, items may pass where you may not.'*
***Level 11:** 'The second from the ends must differ from the rest.'*

HEIMDALL

Dear Vampyra,
Here is a cheat for *Heimdall*. When you are in a shop, buy the piece of food then sell it back to the shop. Now keep clicking on 'sell' and you will find yourself selling food that you do not have. Keep on selling until the shop is full. When you're ready you can now buy loads of food with all the money you have made.

Another trick is used to give all of your team a Storm Blade. Once Heimdall has a Storm Blade have him enter the shop and select Storm Blade. Now move to another person and select 'Sell'. Click on 'Yes' and you'll find that that shop now has one for sale – yet Heimdall still has his.

Mark Kelly, Lanarcshire.

So you've found something which you can sell for money, but when the deal is finished you've still got it to sell again. Well that's not new. In fact it's the oldest deal in town honey.

KNIGHTMARE

Dear Vampyra,
I have been stuck for nearly a year on Level 2 of *Mindscape*'s Knightmare and have come to a dead-end towards the Mystic Chamber and Mystic Door section. I have a bottle of milk, dice and a Mystic wand. Could you please help me find the third key to the door?

Paul Clemmett, London.



WRITE TO VAMPYRA

Feeling disheartened and unloved? Got an awkward little problem that you're too embarrassed to talk about? There there, never mind, Vampyra is here to raise your spirits [*and anything else she can get hold of --Ed*] and kiss it all better. Write to Vampyra with all your adventuring or RPG queries at: Adventure Helpline, CU AMIGA, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.

You haven't really explained where you are stuck because there are lots of keys in this level and I don't know which ones you have found. However, here are a few tips which may help.

Did you know that you can use an empty milk bottle to hold a cure spell? Just hold it in your hand when you cast the spell and it will fill up on its own.

Do you also realise that the walls with the little ball bearings on the bottom can be pushed using the right-hand mouse button? Next to the Help Oracle near the Mystic Door you will find four portholes. Chuck something right through each hole and a key will appear nearby.

In the 'Nobody Must Enter' location throw something through the portal and then enter. Turn around straight away and come out again. Push the door that's straight in front of you and you'll find another key. Go down the corridor and push the movable wall until you come to a junction.

There are two keys in the Holy Moly area, one of which is held by a monster. If you have troubles with the snakes, try using fireballs.

MONKEY ISLAND

Dear Vamyra,
I'm having trouble trying to defeat the Sword Master because she keeps giving me insults I've never heard of before. Can you help me.

Philip Linden-Ball, Norfolk.

Darling I know insults that no-one has ever heard before, but this is a family magazine so I'll refrain from using them – for now. The game in question has around 17 insults which you have to learn, and you'll get the first by visiting the house at the far right of the island, but first you'll need a fish to give the troll who bars the path. Pay the occupant to teach you to fight, and then go to the junction of the paths and stand to the left of the fork.

Keep fighting the pirates who appear until you learn all of the remaining insults.



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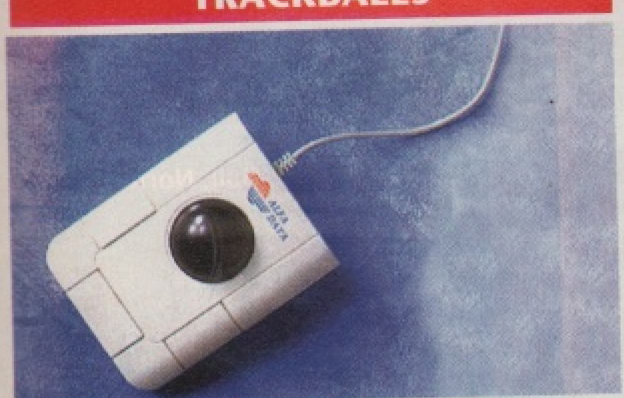
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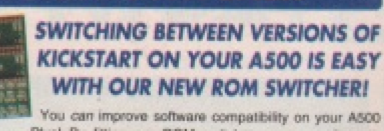
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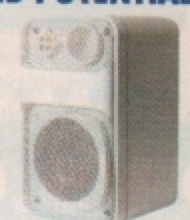
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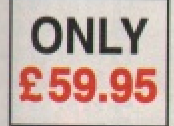
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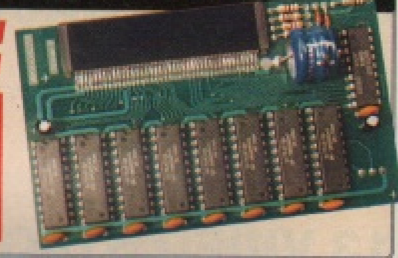
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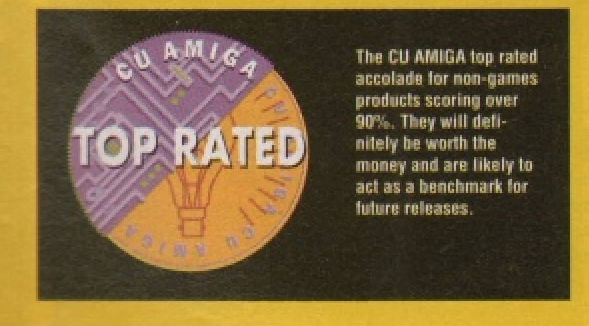
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GET SERIOUS

On the menu for this month's informative get serious are...



The CU AMIGA top rated accolade for non-games products scoring over 90%. They will definitely be worth the money and are likely to act as a benchmark for future releases.

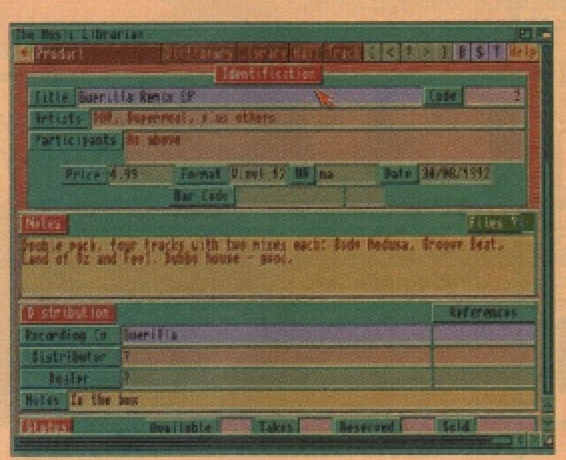
MUSIC LIBRARIAN

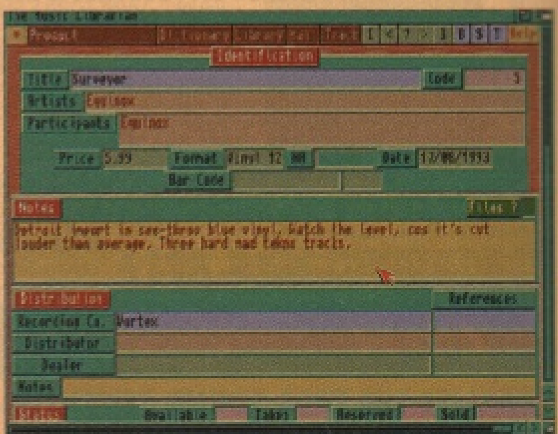
Ok pop-pickers, do you have a record collection to rival Norris McWhirter? If so, you could have a bit of trouble finding a particular track amongst a sea of thousands. This is where *Music Librarian* could help you out. *Music Librarian* is a fairly standard database at heart which is geared towards keeping track of record collections. The fields in the main section accommodate most details you'd need to know, such as title, artist, publisher, format etc, along with information helpful to dealers such as distributor, barcode and so on. You can then enter sub-sections for each disc or tape, such as the Dictionary, Track records, Library records, Product records and Mail records, into which you can enter just about as many details about the particular record as you like.

Music Librarian is certainly comprehensive, but there are a number of problems. For a start, there's no good reason for preventing it running from a single-drive system on a basic 1Mb machine, yet you are unable to do so. It also has a nasty habit of wiping the current entry if you make a false move. All in all, the program, in general, is littered with confusing little quirks. However, despite the pitfalls, this could be quite a handy little program for anyone who runs a record shop or anyone who just wants to cut down the time they spend looking for a particular record.

Available from: ARK, ARK Corve Farmhouse, Corve Lane, Chale Green, Nr Ventnor, Isle Of Wight, PO38 2LA. Tel: 0983 551 496 Price:£39.95.



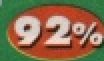


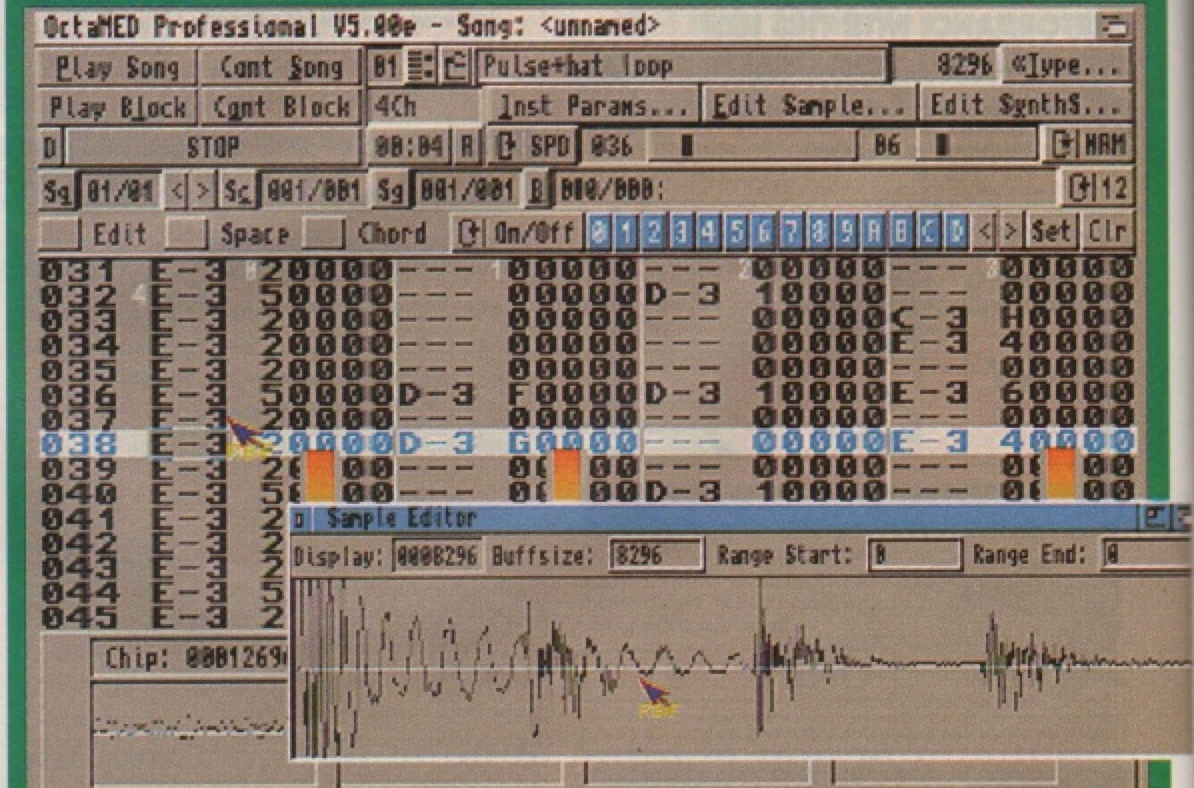


OCTAMED PRO V5.00e

After the initial release of the top-rated (92%) OctaMED Pro V5 (the best combined tracker and MIDI sequencer available), the inevitable bugs began to rear their scaly little heads. The V5.00e revision fixes 99% of these bugs and now comes as a two-disk set. The second disk has a few samples and modules (although you'll need more than 1Mb to load them all). The differences between this and the original V5 are minor, but it's good to see the developers continuing to support the end user. Any music fans who don't have a copy should get one on the double.

Available from: Seasoft Computing, The Business Centre, First Floor, 80 Woodland Avenue, Rustington, West Sussex. Tel: 0903 850378. Price: £30. Requires *Kickstart V2.0* or above.







AMFC Pro V3.1 (WB2+)

With so many different sequencers and trackers around, getting sequences written with one package to load into another can be tricky. It's exactly this problem that *The Amiga Music File Convertor* (AMFC) is designed to rectify.

Using a simple *SID*-style mouse controlled interface, it allows you to convert files to and from any of the following formats: old *Soundtracker* 15-instrument modules, songs and packed songs, *New Sound/Noise/Protracker* modules songs and packed songs, *Soundtracker 2.6* modules and songs, *Star Trekker* songs, *Oktalyser* modules, SMUS files (including *Sonix* scores), and *OctaMED* modules type 0 and 1. It can also read and convert Sonix '.ss' files, but can't write them. Probably the most useful feature is it's ability to convert any of these files into *Music X* format, which lets you take your tracker tunes into a full MIDI sequencer, should you wish to expand them at any time.

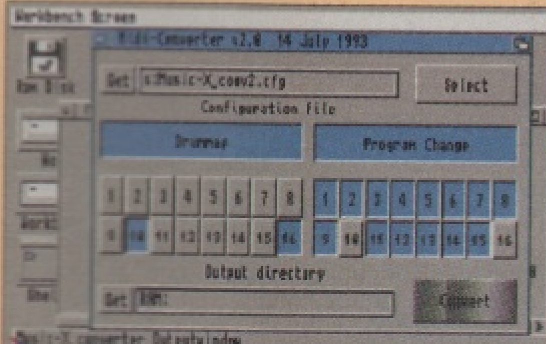
The interface is simple enough. All you need to do is select your source file, pick a destination path and filename, and select the file type you want your song converted to. Click on the 'Do it' button, and you're off. If everything has gone to plan, your original file should be loaded in and saved back out automatically. *AMFC* can also extract the samples from a song or module, and save them out as RAW or IFF files.

Bear in mind that this does need quite a lot of RAM to carry out the conversions. For example, 1Mb wasn't enough to convert a 260K *OctaMED* module into *Music X* format. 2Mbs is probably the minimum you'll need to convert any substantial files. You'll also need a Version 2.0 or higher for the Amiga.

MIDI-Convertor is an extra utility on the disk that converts *Music X* files into standard MIDI files. Using a combination of this and AMFC, you could get any of your tracker, Sonix or OctaMED modules converted to MIDI files, which could then be loaded into any sequencer. This is release version 2.0, with provision for re-routing drum maps.

Together, these two programs could be the answer to your prayers. If you've been stuck in a pit of incompatibility, one way or another, this should sort you out.

Available from: Seasoft Comput- ing, 80 Woodlands Avenue, Rustington, West Sussex. Tel: 0903 850378. Price: £10. **82%**



MAKING SENSE OF ENGLISH IN COMPUTERS

Jargon is essential in areas such as computing, if only to get around the problem of ever-elongating phrases and technical terms. For example, phrases such as a 'maximised media environment' makes about as much sense as 'pull-down dongle architecture' to a newcomer to computing. Geoff Wilkins' *Making Sense of English in Computers* is a guide to most of the jargon you're likely to encounter in a general computer environment.

This isn't an Amiga-specific book, so you won't find entries under blitter, copper list or Chip RAM for example. Reflecting the global trend, the slant is towards IBM PCs, but not to a great extent.

Most of the the definitions are relevant to the Amiga, and the brief descriptions are clear enough to be easily understood. If you're currently struggling with computer terminology, this could be a big help.

Available from: Chambers Publishing, 43-45 Annandale Street, Edinburgh, EH7 4AZ. Price: £5.99. **82%**

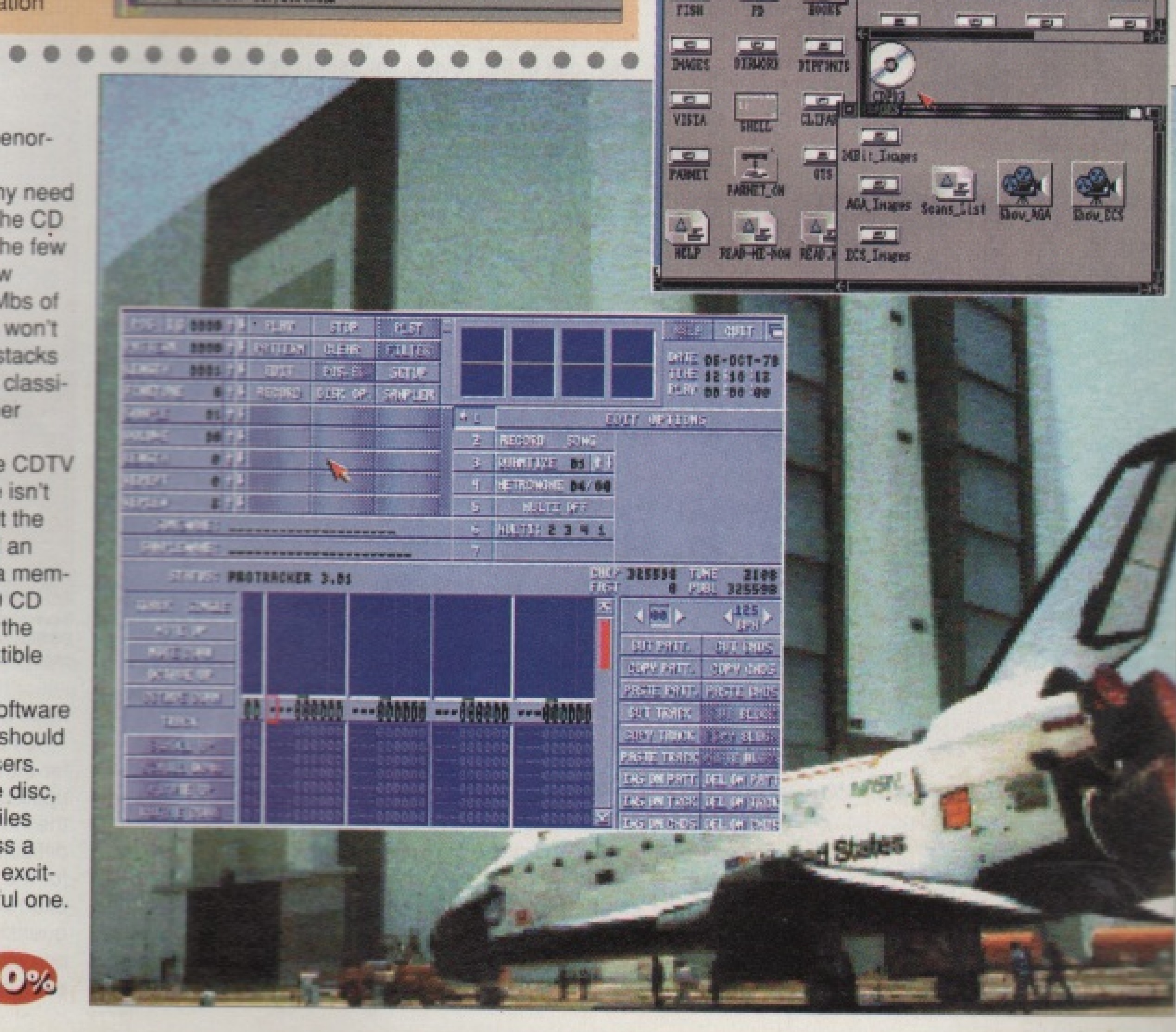
CDPD III

The main advantage of CD-ROM is its enormous storage capacity. Hundred of megabytes can be fitted on without any need for compression. However, so far, most of the CD software hasn't capitalised on this. One of the few that has, is the CDPD series, which has now reached its third volume. A staggering 600Mbs of PD programs and files are on the disc. You won't find any games or demos, but you will find stacks of clipart, utilities, applications, hundreds of classical books in ASCII format and oodles of other miscellaneous bits and pieces.

Although it bears the official Commodore CDTV logo on the packaging, most of the software isn't any use on a stand-alone CDTV unit. To get the most out of this, you'll need a keyboard and an extra floppy drive and preferably some extra memory too. Alternatively, an A500 with an A590 CD drive would be a suitable set-up for most of the software. Unfortunately the disc isn't compatible with the CD32.

There's precious little Amiga CD-ROM software available that's of any practical use, so this should be snapped up by all frustrated CD-ROM users. Even if you never use half of the stuff on the disc, you could spend hours rooting through the files and utilities and you're bound to come across a load of handy bits and pieces. Not the most exciting PD compilation, but certainly a very useful one.

Available from: Almathera, Challenge House, 618 Mitcham Road, Croydon, CR9 3AU. Price: £29.99. **80%**



Rainbow III

There's a lot of them about these days. Go on, look out your window. If you can't see one you must live in a really remote area. They're all over the place and all different prices too. Jeff Walker gazes at the latest selection of Rainbows.



Working 16.7 million colours enables you to compose pictures like this as easily as you would cut out a brush in *DeluxePaint*.

Graphics boards for the Amiga fall into two general categories: those aimed at home users and those aimed at professional users. It's easy to spot which is which, just look at the price. Rainbow III, at a smidgen under £2,000, is certainly not aimed at your average home user. But it is most definitely a wonderful piece of kit.

STICK IT IN

Rainbow III is a Zorro III board which means it will only work in the Amiga 3000 or 4000. Rainbow III will not work in the 4000/040 unless you have the latest Buster chip fitted and a revision 3.1 or higher processor board. However, if your 4000/040 doesn't meet these specs, don't panic as this can be covered by the on-site warranty. Call Wang and get an engineer out. It won't cost a penny.

If you do use Rainbow III on the 4000/040 you will have to turn off the 040 copyback mode, which means slowing down the machine a bit. For the purpose of this review I'm using Rainbow III in an early Amiga 3000 that loads its Kickstart 2 ROM from hard disk.

First of all, fitting the board is easy, you just slot it in. Among the stars on the board is a high-speed graphics chip and 4Mb of high-speed video memory, which is enough to handle multiple screens and screen resolutions of up to 1500 by 1280 pixels.

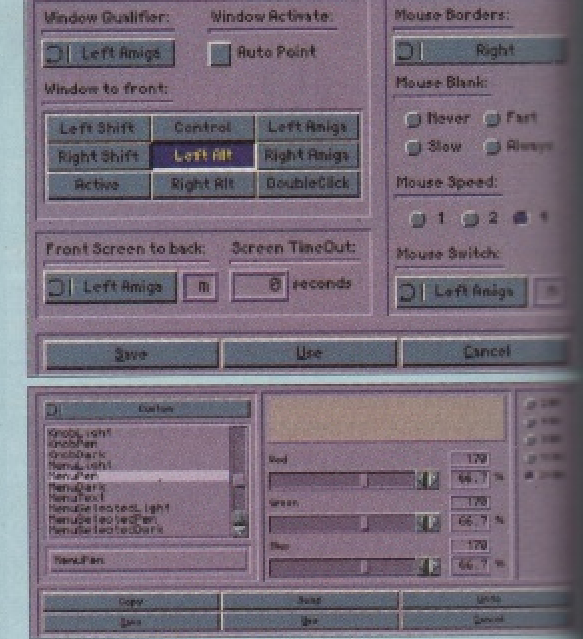
Before you can use the Rainbow III board you must navigate these three set-up programs with the aid of your monitor's manual.

Next, you need to set it up to work with your monitor. At a pinch, you can get away with using a single monitor, but really you need one monitor for the Amiga side and another for the Rainbow III. The monitor plugged into the Rainbow III board must be a high spec one – VGA or multiscan is essential.

Setting up is a rather long-winded affair, but at least it only has to be done once. First, run the MonitorPrefs program in order to describe your monitor. This program runs on the normal Amiga Workbench and asks you for the monitor's name, horizontal and vertical frequencies, maximum pixel resolution and some other technical information; most of which can be gleaned from your monitor's manual.

Once you have described your monitor, you have to run the Monitor Mode program to select and save the monitor you have just described.

The thinking behind this program is that you may want to use Rainbow III with lots of different monitors, in which case you would simply select and save/use that monitor from the list this program supplies which are read from the descriptions you have created with MonitorPrefs.

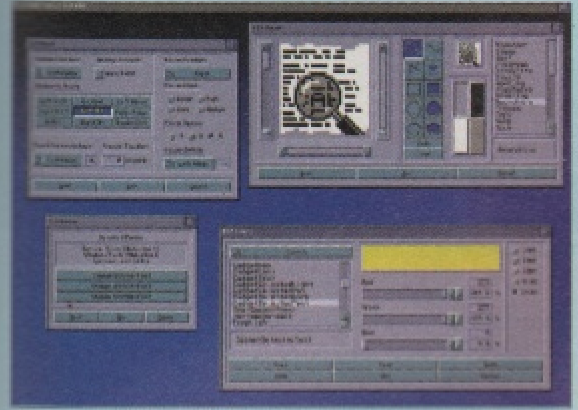


Several preferences programs enable you to customise the EGS user interface in a similar way to the Workbench preferences programs, only in 16.7 million colours of course.

One more setting up program to go, and it is by far the most daunting. Called ScreenTweaker, it is used to set-up lots of different screen modes for the Rainbow III side. But it is not as technical or as difficult to use as it appears. First, invent a name for the screen mode – 'Luvverly 800x600' for example – then describe its pixel resolution, frequencies and pixel clock speed. Sounds complicated, but in practice you just change the pixel clock speed until the test button successfully



The free Painter 24-bit painting program contains many sophisticated features and is a pleasure to work with. But then as *TVPaint* also comes free, you probably won't be using *Painter* that much.



When you consider that this 16.7 million colour user interface runs faster than Workbench 2 in eight colours, you can begin to appreciate how good the Rainbow III board is.

opens a test screen on the Rainbow III board without complaining that the vertical or horizontal frequency is too high or too low.

You can set up as many screen modes as you like, and call them anything you want. After you have run Rainbow's Workbench emulation program these screen modes will be added to the Amiga's display database, and any program that puts up a standard Amiga screen mode requestor will have your new screen modes listed. Selecting and using a Rainbow screen mode will cause the program that put up the requestor to transfer itself from the normal Amiga display onto the Rainbow III display. If you are using two monitors, the program literally leaps from one to the other.

As the Workbench display is controlled by the Screenmodes program in Prefs, you can run Workbench and any software that sits on Workbench on the Rainbow III board. There isn't actually much point in doing this, unless the monitor you are using for the Rainbow III display is better quality than the one plugged into the Amiga. What it does mean, however, is that you can get by with just the one monitor as Rainbow III can be used for both Workbench and standard Amiga software as well as specialised 24-bit Rainbow III software. Keep in mind that if you do use Rainbow III in this way, any program that by default opens on a standard Amiga screen will be invisible to the Rainbow III board. It would be quite an awkward way to work and could be likened to driving a car that can only turn left – you might get close to where you want to go in the end, but you are going to have to go all around the houses to get there, and even then you might find that there is simply no way of getting exactly where you want to go without doing a right turn. If you want to use Rainbow III effectively, you will need two monitors.

ENHANCED GRAPHICS

Rainbow III revolves around something called EGS (Enhanced Graphics System). EGS is a set of shared libraries that any software can use in order to access the Rainbow III display. The real beauty of EGS is that any software that sticks to using these libraries can be made to run on any graphics board for which the EGS libraries are available. In other words, if you develop a program to run on the Rainbow III and then someone brings out a new graphics board that also supports EGS, you shouldn't have to do any more work to get your software to run on the new graphics board. And if the new board doesn't support EGS and you want your software to work on it, all you need do is ask the EGS developers (Viona) to port their libraries to that board rather than re-write your software.

There's not a lot of software around that works in this way. In fact, the only one of any importance is *TVPaint*, which comes bundled with Rainbow III.

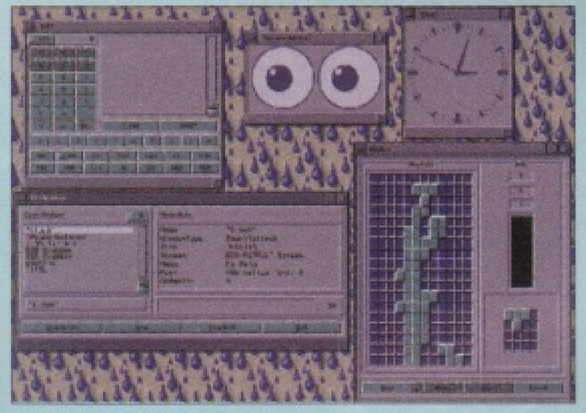
Nothing more needs to be said about *TVPaint* except that it is a truly superb painting package that makes the likes of *DeluxePaint*, *PersonalPaint* and even *Brilliance* look like cheap toys; it's that brilliant.

The EGS software provided with Rainbow III are mainly preferences programs that do a similar job to some of the Workbench preferences programs. EGS software opens in windows on a Workbench-like screen.

As you can have a 16.7 million colour display, there are few restrictions placed on the look of the Graphical User Interface (GUI). The GUI design is 3D and much more modern looking than Workbench. Pull-down menus can be attached to the screen title bar or a window's title bar, and often-used menus can be dragged off the title bar and left 'pulled-down' anywhere on the screen.

Just about every action you can think of has its own mouse pointer. There are dozens of them and any of them can be edited within the supplied Mouse program. Similarly, the colours of every element of an EGS display – things like the colour of text in menus, the colours of all the gadgets and so on – can be fine tuned in the Colors program. As with Workbench 2/3, screen, window and system fonts are all user-definable. You want a fancy backdrop? You can do that too.

The end result is a GUI that is absolutely stunning to look at and still works faster in 16.7 million colours than a standard eight-colour Workbench on an Amiga 3000. The trouble is, there's not



Several small programs are provided with Rainbow III, including a calculator (top left), a clock, and a screen grabber (bottom left) . Bottom right is a little *Tetris*-like game.

much you can do on this GUI because there is so little EGS software. Apart from the prefs programs there is only *Painter*, a 24-bit painting program. It's very nice, although not particularly powerful or stable, but as you get *TVPaint* thrown-in there doesn't seem much point in running *Painter*.

On the disks supplied to me there was an *Imagemaster* script for displaying images on the Rainbow III board. I couldn't get it to work. In fact, I had problems running Imagemaster on the Amiga side while the Rainbow III board was activated. There was also a drawer named ADPro on the support disk, but it was empty. *TVPaint* can do pretty much everything that Imagemaster and *ADPro* can do, so support for these program is perhaps not as important as everyone makes out.

While using Rainbow III I had an unacceptable number of software failures. The photocopied manual I was provided with did have 'preview for customers and developers' stamped on it, so I'm quite prepared to accept that there are bugs in this preview version yet to be squashed.

Crashes apart, Rainbow III is a superb piece of work that deserves to be well supported by third-party developers of graphics-related software. Whether it will or not is another matter. And if Commodore is looking for something on which to base any new version of the operating system that supports retargetable 24-bit graphics, they could do a lot worse than adopt the work Viona Development has already put into EGS. CU



Why can't *DPaint*, *PersonalPaint* and all the others work like this? Because working in windows would slow them down terribly. This is not a problem on the Rainbow III board, which has a dedicated high speed graphics chip.



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EASE OF USE 86%
There is a fair amount of setting up to do, but if you take it slowly you should get there fairly painlessly.

VALUE FOR MONEY 82%
It is expensive, but you do get a lot of high-end, high-speed hardware for your money.

EFFECTIVENESS 79%
Direct software support is limited to the use of the Painter and TVPaint painting programs that come with it.

FLEXIBILITY 85%
It is programmable through the supplied EGS shared libraries, which are very similar to the standard Amiga libraries, so in theory, provided you are a C or assembler programmer, it can do anything.

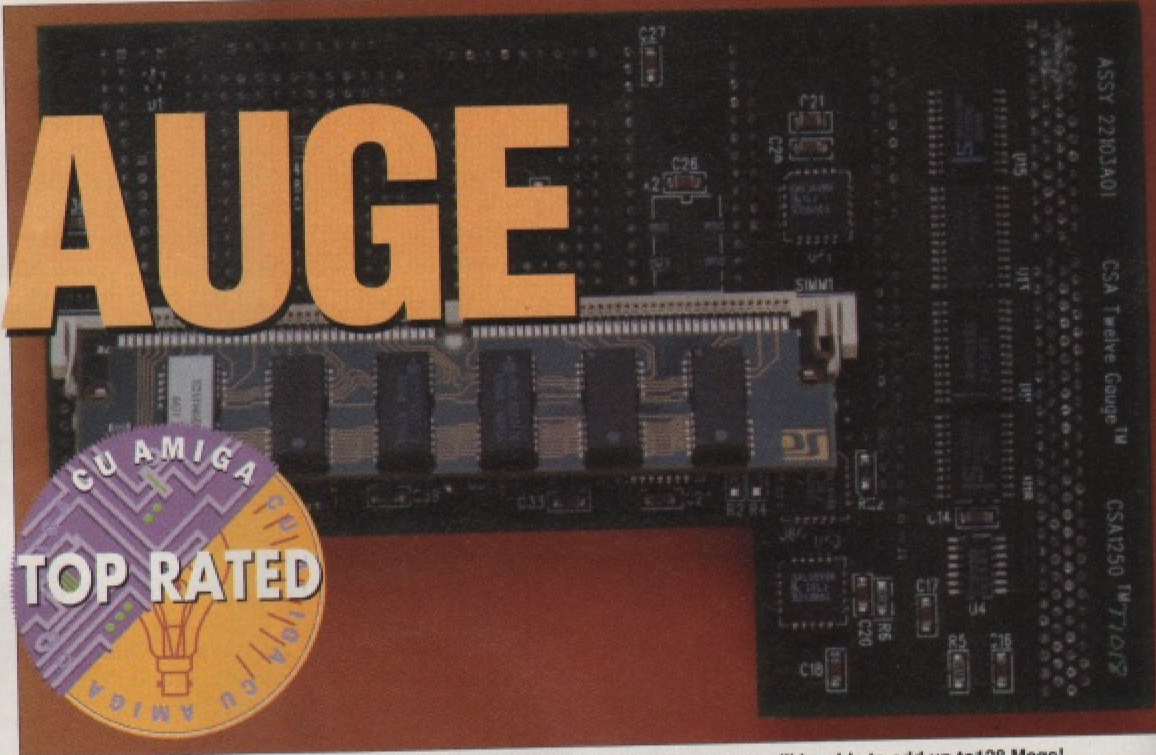
INNOVATION 92%
EGS is a well designed graphical user interface. An absolute pleasure to use. If only there was more software that uses it.

> **Ideal for graphics artists, and programmers should find it an enjoyable challenge.**

OVERALL 88%

CSA 12-GAUGE

The A1200 only has one expansion slot and at least three separate peripherals which can all use it. Mat Broomfield looks at a new product from America that solves this access problem...



The 12 Gauge lets you add extra memory via its single SIMM slot. That means that you'll be able to add up to128 Megs!

The A1200 is a wonderful machine. One of its greatest strengths is its expandability. You can add an IDE drive internally for slightly more than £1 per Mb, and you can add 16-bit memory via the smart card slot at the side of the computer. However, for real power users who want to add 32-bit fast RAM or high capacity drives, you'll need a card which plugs into the expansion slot underneath the machine.

There are a plethora of different expansion options available: accelerators, clocks, RAM cards and SCSI interfaces. There's just one problem – you can only plug one of them in at a time! Most manufacturers have realised the limitations of this and have attempted to include extra RAM (or slots for it) and a co-processor slot with every board. If you buy an A1200 accelerator, all currently available models support extra 32-bit RAM as well.

INNOVATION

However, whether it's been due to space limitations or design problems, a combined SCSI and accelerator board has not been available, until CSA introduced their 12-Gauge to the market, that is.

CSA's 12-Gauge comes in a variety of configurations according to your preferences. The one I looked at came with a clock, a 50MHz maths co-processor, 4Mb of 32-bit fast RAM and, of course, a 68030 CPU. Surprisingly, this was no cut-down 68EC030 chip like those found in GVP's accelerators; this was a full 68030 with MMU, and better yet it was rated at a stunning 50MHz! MMU stands for Memory Management Unit and it helps control the flow of data to and from the CPU's cache, which in turn makes the chip more efficient. This is a great bonus 'cos there are a number of programs such as *Gigamem*, which will only run on machines which have an MMU.

Here you can see the fully equipped board complete with 50MHz co-pro, accelerator and SCSI 1 and 2 controller.

SCSI CHOICE

The 12-Gauge slots very easily into the expansion slot under the computer. However, fitting the SCSI cable is not as straightforward. The SCSI port is accessed via a ribbon cable that extends from the board at the right-hand side. There is a SCSI plug on the end of the cable which is designed to be mounted at the back-right side of the computer (where the blanking plate is). To fit the cable properly, you'll not only have to invalidate your computer's warranty, you'll have to open the case, and remove the disk drive. This isn't difficult, but less experienced users may find the prospect a little daunting. However, once fitted, you'll have a SCSI interface which looks no more out of place than the Parallel or serial ports.

Alternatively, you could simply cut a hole in the plastic trap-door under your computer and trail the cable out to the right, leaving your warranty intact, and your computer in pieces! This option works quite well.

The board auto-detects whether you are using a SCSI 1 or SCSI 2 drive and auto-configures itself accordingly. SCSI 2 users can expect a slight improvement in speed. I was going to speed test the SCSI transmission, but such a test would be meaningless as the rate of data transfer is more a feature of the device hooked up to the interface, rather than the interface itself.



ZIPPY CHIPPY

Accelerator speed tests, however, tell us a lot more. The second you add fast RAM, the A1200 immediately increases its speed. But the accelerator lifts this speed tenfold. A SysInfo test revealed that with CSA in place, my A1200 runs 6.75 times faster than it did before. This speed increase is only representative of a particular type of test, but depending on what you're doing you can expect some degree of speed increase. Regardless of the exact amount of improvement, this is one seriously impressive board. It does for the A1200, what GVP's A530 Turbo did for the 500, only more so!

CONCLUSION

The CSA 12-Gauge is the most flexible and impressive A1200 peripheral available to date. It has the fastest 68030 accelerator of any Amiga and the most flexible SCSI port. It can be expanded up to 128Mb of RAM (in the form a single 70 nanosecond SIMM chip) and you can add a 68882 maths co-processor. I fully endorse this product and recommend it to any A1200 owner that can afford it.

COMPUTER SYSTEMS ASSOCIATES £499.00
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Just fit it and go.

VALUE FOR MONEY ◆◆◆◆◆◆◆◆◆ 95%
Compared to the price of individual SCSI and accelerator boards, the price is very fair.

EFFECTIVENESS ◆◆◆◆◆◆◆◆◆ 99%
Whoooooosh!

FLEXIBILITY ◆◆◆◆◆◆◆◆◆ 99%
They're working on a tea-making attachment now...

INNOVATION ◆◆◆◆◆◆◆◆◆ 95%
CSA are the first and only company to combine a variety of leading edge technologies in one compact board.

"Gimme, gimme, gimme!"

OVERALL 96%

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Origins

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David Ward delves deep into the archives and discovers his roots with the latest version of the Puzzle Factory's genealogy database.

One day, I suddenly realised that a lot of the people in the family photograph album were complete strangers. A few faces from my early childhood I could recognise, but I couldn't put any names to the faces.

I desperately wanted to find out more about my predecessors and, as the song goes, get back to my roots? How did I go about doing this? Well, first of all, I chatted to all my older aunties and uncles about the past – who married who and so on. I became the favourite nephew overnight because I took such an interest in their favourite subject – the past. Accumulating the information wasn't a problem. But how do I link all this information? One way you could do this is to is to draw up a family tree on paper, but this can get unwieldy. Especially with a large family. Far better to automate the operation.

Well, the rainforests are safe, I won't be needing millions of paper and pencils because *Origins* is a dedicated database which charts who married whom, when, where, and if they had any offspring and so on. It has extensive on-line help and the accompanying manual contains background information on genealogy.

Displaying the record of a person...

Person:		Person's Vital Statistics:	
Record #:	4	Birth date:	29 MAY 1917
Surname:	Kennedy	Birth city:	Brookline
Given names:	John Fitzgerald	Birth county:	Norfolk
Gender:	M	Birth state:	MA
Code:	0	Birth country:	
Person's Father:			
Record #:	1	Death date:	22 NOV 1963
Surname:	Kennedy	Death city:	Dallas
Given names:	Joseph Patrick	Death county:	Dallas
Birth date:	6 SEP 1888	Death state:	TX
		Death country:	
Person's Mother:			
Record #:	2	Burial date:	25 NOV 1963
Surname:	Fitzgerald	Burial city:	Arlington
Given names:	Rose Elizabeth	Burial county:	Arlington
Birth date:	22 JUL 1890	Burial state:	VA
		Burial country:	

Previous | Next | Specify | Sources | Notes | Picture | Quit

Not exactly the most exciting program to look, but it does the job.

The software comes on a single disk. Installation is quick and easy as the program uses Commodore's installation routine. It installs onto several floppies, one for each set of datafiles.

The unusual thing about *Origins* is that there is no facility to load and save databases. When the program is launched it will request the disk on which the datafiles reside.

When you first start, a blank database of 100 names and 50 marriage records is created. These can then be filled with names, dates, and places.

The manual takes you through a sample session of entering data. An example database is supplied, charting the Kennedy clan, to give you an idea of what the finished product should look like.

Origins is a powerful tool. It can handle the population of a major city if you've got the storage capacity, but for everyday use a single floppy disk will cope with 2,000 individuals. More than enough for any family.

Once the data is entered you can then use it to create lists, reports and pedigree charts. These can be viewed on screen, saved to disk or printed out. In addition to the general information, *Origins* will link IFFs, notes, and source files to individual records. These last two can be edited from within the program if you run *Arexx* and have a compatible editor. *Origins* will then call the editor and pass the text to it.

A source is a reminder of where the information came from. Granny Smith may have told you one story, while Aunt Sally another. This way you can keep tabs.

However, there is one drawback. Because *Origins* is an American program, all of the recommended reading and Bulletin Board Services that deal with genealogy are going to be difficult to get hold of.

70%

Scenery Animator 4

FIRST COMPUTER CENTRE £67.99
TEL:0532 319444

David Ward goes forth onto some spectacular landscapes.

A few years ago, I marvelled at a computer-simulated flight across the surface of Mars. It was done on a NASA supercomputer. Here, we have a program that enables you to do similar trips on Earth in your own home.

Scenery Animator will generate rendered landscapes from either the several examples supplied on the landscape disk, or from a fractal algorithm. The randomly-produced panoramas are created from an initial seed value you enter into one of the control panels.

The Clouds are fractally generated and you can set altitude and coverage. Or you could go for a night scene with stars. However, as its name implies, *Scenery Animator* does not just produce pretty pictures. Its main purpose is to allow you to move through them.

The eventual view you will see on your screen depends on a number of factors, such as the path your flying eye takes over the landscape, the height above ground, the angle and lens focal length. The route you choose is determined by a number of key frames. These are placed using the mouse. The program can then be set to fill in the in-between frames evenly, so as to give a single speed flight, or with more frames between particular key frames. This will have the effect of speeding up part of the journey. You can even fly through mountains, but a ground hugging feature can be set to avoid this.

Camera focal length can be changed during flight so that you can zoom in on particular landscape features. These can be part of the scene, such as trees and lakes, or man-made objects. *Scenery Animator* comes with a few such examples, although any 3D object in VideoScape.GEO format can be loaded in, placed, and animated along with the clouds.

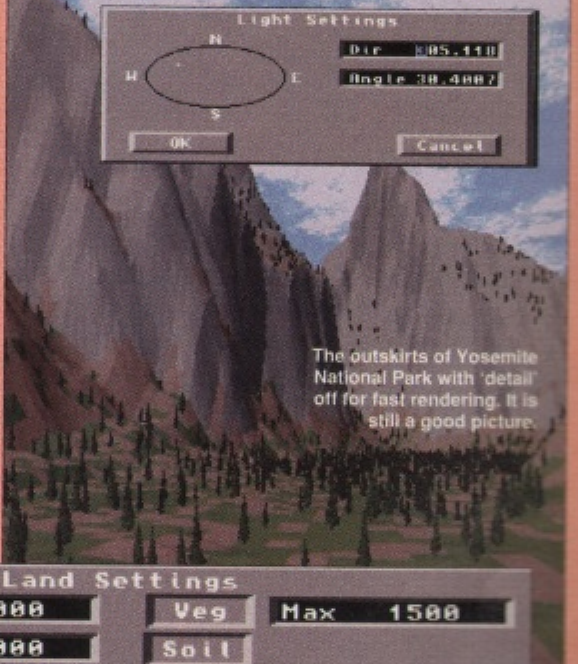
The manual is written in an easy-to-understand style and takes you through landscape generation clearly and quickly. Even a novice user will be up and running in a matter of minutes. Although he/she will have to wait a few hours for the result of their labours. It takes time to generate each frame in the animation. The more complex your scene, the number of trees, and the amount of detail are among the factors that can extend the wait.

Obviously the faster the processor the better, and if you have a math co-processor then there is a dedicated version of *Scenery Animator* included for that on the program disk.

This sort of software is best set to work in the late evening so that it can number crunch overnight.

The resulting file can be played back using the ANIM viewer supplied or your personal favourite. It's difficult to believe that such beautiful and wonderful sights have been created from only a single number and a mathematical formula.

83%



The outskirts of Yosemite National Park with 'detail' off for fast rendering. It is still a good picture.



These (and inset) are the individual controls for effects like light, water, trees, and clouds.

TURBOTECH A41200

SIREN SOFTWARE: £169.99
Tel: 061 724 7572.

Mat Broomfield looks at the latest entry to hit the ever-competitive A1200 memory market.

Like most other Amiga 1200 memory expansions, the Turbotech A41200 is a board which plugs into the expansion slot underneath the A1200. This board looks much like any other except that it uses surface-mounted Zip chips rather than the removable Simms which most other boards use. This is a bit of a double-edged sword because although surface mounting makes for a more reliable upgrade, you can't plug in any more more memory than the 4Mb installed on the board.

The Turbotech A41200 has a battery-backed clock which is particularly handy if you have a hard drive as it enables you to perform calendar related back-ups. Notable by its absence is a maths co-processor slot. To my knowledge this is the only A1200 RAM card that doesn't have one, and this comes as something of a surprise. Apparently, Siren looked at the possibility of including one, but decided that the extra cost both to them and the end user didn't justify its inclusion, especially considering the tiny percentage of people who actually buy a co-processor chip to put into such a slot.

Fitting the board is simplicity itself: remove the plastic trapdoor slot under the A1200, line the board's female edge connector up with the computer's expansion bus and, wiggling slightly, slide the board into place. In fact, because the board is smaller than all the other expansions (due to the absent co-pro slot), it gives you a little more room inside the computer to manoeuvre.

However, the petite size of the board doesn't help much when you try to remove it: I wish that board manufacturers would remember when they are creating boards that these boards need to be unwedged (often with tools) to get them out of the computer!

Once installed, the board is auto-configuring: in other words you don't have to do anything else, it's ready to use. Because it uses fast 32-bit, 70 nanosecond, zero wait state memory chips most computer operations are speeded up, typically by 52-75% although Siren's literature claims as much as an 112% speed increase. I suppose a 112% increase in speed is theoretically possible in the case of very RAM-intensive operations, although I personally couldn't see such a significant improvement.

In conclusion, the board is easy to use and fit, moderately priced and ideal for A1200 users on a budget. This latest entry is definitely worth a look.

73%

SBase 4 Personal

MERIDIAN: £149.95
Tel: 081 543 3500

Do you want more than an ordinary database? Are you looking for a program that will catalogue the entire contents of the British Museum? David Ward can ease your worries and get you that database...

SuperBase has consistently been at the forefront of commercial packages for years now. It comes in two forms: *Professional* and *Personal*.

Now we have, *SBase 4 Personal*, the latest junior version of Oxxi's relational database management program. It doesn't have all the features of the *Professional* database, such as the Database Management Language (DML) or ANIM support. This is odd since it does support the PC image formats .PCX and .GIF, as well as Encapsulated PostScript (EPS) and 8SVX sound files.

At the heart of *SBase 4* is its relational database which stores its information as several tables of data, or fields, all of which are linked together. Most of these fields contain text or numbers. Some of the fields, called external fields, link pictures or sounds to a particular record. For example, if you used the contents of the British Museum as your data, you could create a database that had digitised pictures of the exhibits complete with detailed descriptions.

With *SBase 4 Personal* you can extract data defined by age, or country of origin, or author, or any combination of these. And probably a few others too.The program has great depth to it. Yes, you can jump in and have a simple database up and running in fifteen minutes. But to really take advantage of the facilities it provides you must immerse yourself in the manual. This is quite a heavy tome and is dedicated to using the database, text editor, and creating forms. *Professional* users get an extra book on DML.

One important feature of *SBase* is the form designer which gives the series a very unique appearance – instead of displaying bland text tables, the information is displayed via graphic boxes. This adds a very polished effect to the presentation of data.

Okay, so now we've entered our data, what can we do? *SBase 4 Personal* can link formulae and functions to data fields which means that data is validated, so that an item is only displayed when particular criteria are met. You can also calculate fields as in a spreadsheet or use the data in several fields as the basis for new information in another field.

Another method, the ternary operator, uses a type of formula which allows the program to make decisions. A sort of IF.. THEN.. ELSE command to those of you familiar with computer programming.

The functions in *SBase* are fairly similar to the range normally found in a spreadsheet program. In fact, spreadsheets can be used as simple databases, so *SBase* has the ability to import data from a number of PC programs.

There is a lot to this software and the manual includes 14 tutorials to help get you going. The writing style tries to be clear, but the technical terms used can cause consternation when you are just starting out. Anyway, who ever said that advancing from a telephone and address card file index to a relational database was easy.

83%

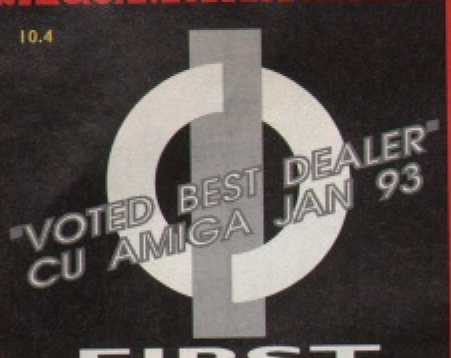
Customer Address and Signature Card
45-86534
Janice Armstrong
6982551

Using the form designer to create an identity card. The signature and picture are IFFs linked through an external field. The page can then be screen dumped to a printer.

SBase4
Communications parameters
Mode: Transmit / Receive
Baud rate: 19200 / 9600 / 4800 / 2400 / 1200 / 300
Auto-dial number
Modem initialization sequence
Protocol: XMODEM / CRC-XM / WXMODEM
Options: Auto / Chop / LF->CR
OK / Cancel

SBase 4 Personal has a range of options to allow the interchange of data with other computers, among these being serial communication.

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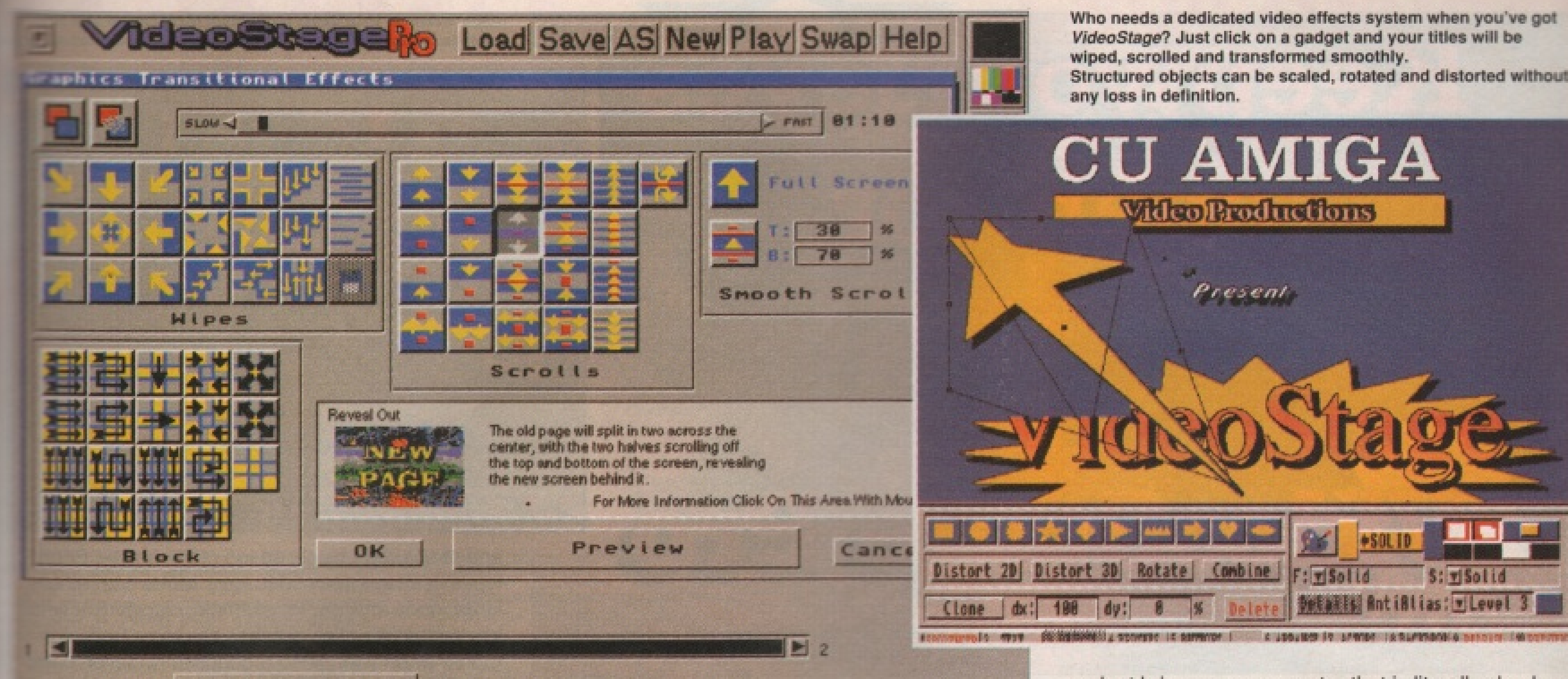
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Who needs a dedicated video effects system when you've got *VideoStage*? Just click on a gadget and your titles will be wiped, scrolled and transformed smoothly.
Structured objects can be scaled, rotated and distorted without any loss in definition.

VideoStage pro

Want to create a professional video presentation? You'll need more than a genlock and a couple of video decks. Cue Jason Holborn with a copy of Aegis' *VideoStage Pro*.

Amiga owners have a great deal to thank Aegis for. Before companies like NewTek and GVP had even started trading, Aegis brought Amiga owners the first-ever paint program (*Images*), the first-ever animation program (*Aegis Animator*), the first-ever 3D animation program (*VideoScape 3D*) and the first-ever music program (*Sonix* - remember that one!). None of those early products are even mentioned in polite conversation these days, (Except *Aegis Animator* which has aged very well and is still a favourite program of mine.) but no one can doubt that they laid the foundations for the amazing software that the Amiga now enjoys.

Aegis are back with a brand new combined video presentation and titling program called *VideoStage Pro*. Borrowing more than a few tricks from Aegis' failed business presentation program *Presentation Master, VideoStage Pro* lets you produce professional quality video presentations complete with titles, animations, sound samples, graphics and DVE-like video effects without having to own an Amiga powerful enough to run a nuclear power station. Armed with nothing more than an Amiga, a genlock, a couple of video decks and this software, you'll be churning out video productions that would put Industrial Light and Magic to shame!

COVER STORY

The *VideoStage* program comprises of a number of linked modules that allow you to create titles, pull in IFF graphics and animations and then link them all together complete with timing information to create your finished production. Upon loading, you're presented with the *VideoStage* 'Sequencer' screen that looks not unlike the storyboards used in the professional video industry. In many ways, the comparison is closer than you might think – just like a storyboard, *VideoStage*'s sequencer lets you view the flow of your video presentation from start to finish using tiny 'frames', each of which represents a major event within your production.

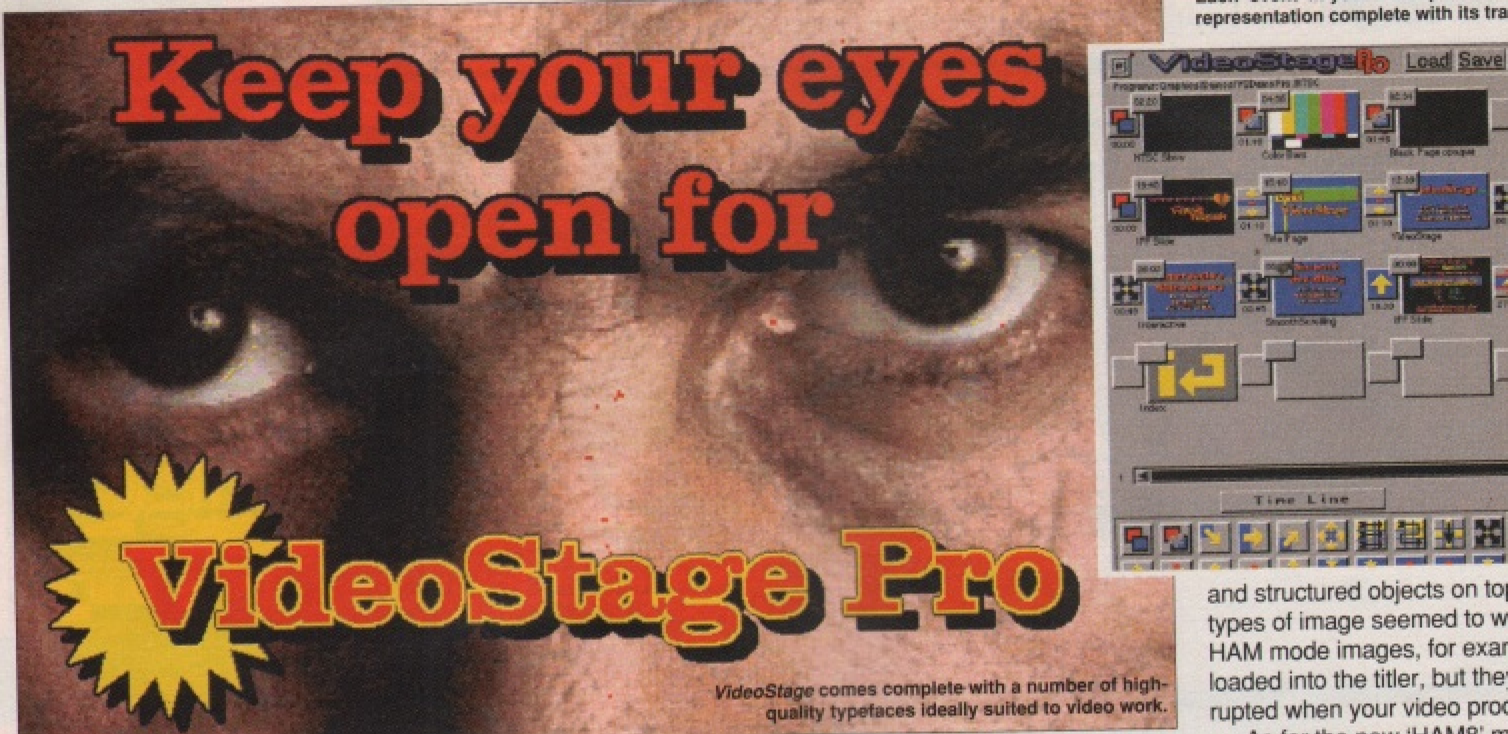
The terminology is pretty similar too. *VideoStage* refers to each frame within the storyboard as an 'event' which can consist of either a screen full of titles, an IFF graphic or animation, a sound sample, a genlock event or you can even play an *ARexx* script. As I've continuously tried to bang into the heads of both users and developers alike, *ARexx* compatibility can enhance a product immeasurably and *VideoStage* certainly benefits from this all-important feature. By taking advantage of *ARexx*, there's no reason whatsoever why *VideoStage* productions couldn't draw upon the talents of any program or hardware device that offers an *ARexx* 'port'. If Commodore's soon-to-be-released FMV-compatible CD-ROM drive offers *ARexx* compatibility, you may even be able to sequence Digital Video clips from within *VideoStage*! Each event has two extra gadgets associated with it that lets you adjust the duration of each event and even attach DVE-like transitions to an event. Simply clicking on the event's DVE gadget brings up a requestor that is literally chock -a-block with video effects such as wipes, scrolls and block transitions. If you've ever used a video presentation system like Scala, then you'll feel instantly at home with these transitions – even if you don't quite understand what each transition does, *VideoStage* not only gives a short description of the transition, but even shows a tiny animated representation.

TIME SCALES

The sequencer screens give you extensive control over your video production. As it starts to grow, you may want to rearrange events into a different order. With *VideoStage*, this is no problem whatsoever. Just click on the event you wish to move and then drag it to its new position and the entire production is shuffled back to fill the space that is left. You don't have to play a production in the order that it appears on the screen either – by inserting 'index' points into »

JARGON BUSTERS

- **Genlock: A device that allows you to combine graphics generated on your Amiga screen with a live video source. The genlock 'keys' the two signals together, removing the background colour from the Amiga's video signal so that the live video can show through the gaps that are left. By combining a genlock with a video titling package like *VideoStage Pro*, you can add television-like titles and graphics to your home videos.**
- ***Video Titler*: By far the most popular type of video software is the titling package, a program that lets you create pages of titles in a variety of different font styles. What separates a video titler from a conventional paint program, however, is their ability to hold any number of pages in memory which can be arranged into order and then run in sequence complete with video transitions such as fades, rolls and scrolls.**
- **DVE: DVE is jargon for a piece of video equipment called a 'Digital Video Effects' unit that allows you to apply a range of exotic transitions from one image to another. Instead of simply flipping between one page and another, DVE units allow you to blend, fade and dissolve between pages. Many Amiga video programs offer DVE-like effects in one form or another, but *VideoStage* is certainly one of the most comprehensive.**
- **FMV: Short for 'Full Motion Video'. FMV is a system that allows you to display video footage on the Amiga's screen using very powerful 'MPEG' (Motion Picture Experts Group) realtime compression hardware. Commodore are soon to release an FMV upgrade card for its CD-32 console and soon-to-be-released A1200 and A4000 CD-ROM drives which should theoretically allow you to play movies like *Terminator 2* and *Jurassic Park* in a window on your Amiga's Workbench!**



VideoStage comes complete with a number of high-quality typefaces ideally suited to video work.

Each 'event' in your video production is displayed as a tiny representation complete with its transition type and duration.

OBJECT OF DESIRE

To give your titles extra sparkle, you can add a number of preset structured objects to your pages. These include stars, boxes, circles, arrows and hearts, all of which can be scaled, rotated and distorted (in 2D and 3D) without loss of quality. Impressive stuff maybe, but the action doesn't stop here. *VideoStage* lets you define any object or line of text as an 'actor' which (despite the rather grand name) basically means that the object can be made to move smoothly onto the screen instead of simply appearing to be a part of the background.

VideoStage provides an almost bewildering number of movement 'paths' for actors ranging from the usual up, down, left or right motion paths, to more exotic movement patterns where the object flies around the screen with the sort of grace that wouldn't put the Red Arrows to shame. To be perfectly honest, however, even on my accelerated AGA machine some of these movement paths were a little too jerky to be useful – if *VideoStage* wants to compete with established programs like Scala, this needs to be sorted out.

» your production, you can mark certain points almost as if they were 'procedures' within a program – just like a programming language, you can jump to a section of your production over and over again and then return back to where the jump occurred without having to keep track of these points yourself. *Video Stage*'s 'indexes' are perhaps the one feature that sets it aside from a conventional slideshow program.

The sequencing power doesn't stop here, however, productions can also be fine-tuned using what *VideoStage* calls its 'Time Line', which displays your production as a series of 'tracks', each of which contains all your titles, graphics, transitions, genlock events, *ARexx* scripts and index events exactly as they will appear when the production is run. Even if your production jumps backwards and forwards between index points, the time line editor will show the flow of your production in its entirety. If you're not entirely happy with any events, you can fine tune both their position and duration simply by dragging an event's start and end markers. Experienced videophiles may find this editing system somewhat familiar – Gold Disk used it to great effect in its 'ShowMaker' program a couple of years ago.

TITLE TRACK

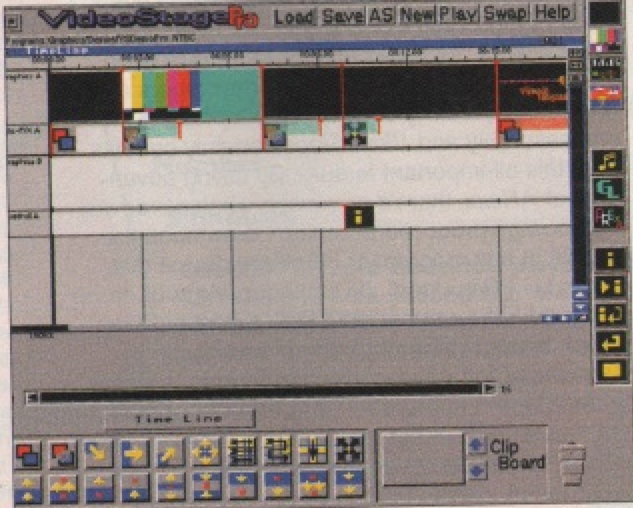
VideoStage doesn't just let you sequence events, however. Built into the program is a very powerful video titling package that lets you create a lot more than just run-of-the-mill static titles. If you're lucky enough to own an AGA-based Amiga, *VideoStage*'s titler can take full advantage of the extended screen palettes on offer, giving a much wider choice of colours. By default, the titler runs in high resolution with 32 colours – more than enough for even the most complex titles – but you can quite easily change this to any screen resolution and colour combination with up to 256 colours. You can only ever use a maximum of 32 colours for colouring your titles, however, but the rest of the palette can be used for backdrop images and patterns.

Accessing the titler is simple enough; just create a blank 'title' event on the sequencer screen and then double click on it and the titler springs to life. Just like a conventional titler, you can then add text in a variety of different font styles and adjust its justification, point size, fill pattern (*VideoStage* offers a number of dithered fill patterns for text) and its colour.

One very nice feature is the ability to automatically anti-alias text which helps to smooth out the 'jaggies' normally associated with computer-based titling packages. It's surprisingly quick too as anyone who has used *DPaint* will confirm, anti-aliasing usually slows text rendering down tremendously, but *VideoStage* keeps the pace up even when the best anti-aliasing system is used.

COLOUR CONFLICT

The support for the AGA chip set comes in very handy indeed when you load in IFF picture files. Providing your picture doesn't eat up every single colour register, *VideoStage* lets you place both text and structured objects on top of the image. Some types of image seemed to work better than others. HAM mode images, for example, display fine when loaded into the titler, but they are sometimes corrupted when your video production is played back.



VideoStage's Time Line facility displays your video production exactly as it will appear when run.

As for the new 'HAM8' mode offered by the AGA chip set, don't even bother! *VideoStage* seems to hate any pictures that use more than 256 colours. *Workbench 3.0*'s 'mode promotion' facility seemed to cause a few problems too, although the images would promote okay, the constant flicking backwards and forwards between interlaced and non-interlaced screen modes eventually caused *VideoStage* to crash! It's best to turn off mode promotion when you're working with video software because the Amiga's interlaced screen modes give far greater video signal stability.

VideoStage is a brave attempt to bring videophiles a video titler that can do just about everything and, to a greater extent, Aegis has achieved this aim. Unfortunately, there are still a couple of bugs that need to be ironed out but I guess this is unavoidable with such a complex piece of software. Gripes aside, however, *VideoStage* is the most complete Amiga videotitler available. If you want to spruce up your videos of your auntie Mable on the beach, then look no further than this. CU



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EASE OF USE 81%
Aegis' wares have certainly improved with leaps and bounds over the past couple of years or so. VideoStage is an absolute joy to use.

VALUE FOR MONEY ??%
Sorry. Pricing details unavailable! Watch out for an update.

DOCUMENTATION 75%
The VideoStage manual is brief and to the point. More tutorials would have made it considerably better.

> **An ideal one-stop solution for all your video titling and presentation needs.**

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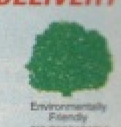
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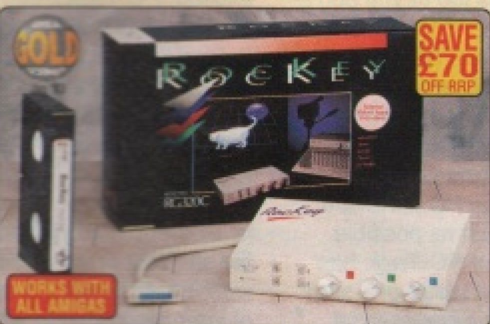
- Composite input/output
- Three special effects modes:
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  Overlay: Amiga graphics displayed as an overlay
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PC-Task © 1992-93 Chris Hames.
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This is version 2.03
Serial#:10507
Quasar Distribution
Start
MDA Colors
Graphics Adapter VGA
Use Serial
Use Parallel
A DF0:
B DF1:
HardDrive C
D
Create HardDiskFile
Priority when selected 1
Priority when not selected -1
Memory Kilobytes 640
Minimum Leave Available 64
Use Defaults
Save configuration
Quit

PC-Task's front-end menu lets you create a hard disk 'file' which will be used to hold MSDOS and change the screen mode from CGA to EGA or VGA.

Chris Hames' *PC-Task* emulator started life as a PD program but it has now made its way to the commercial circuit. Jason Holborn transforms his Amiga into a PC .

PC-Task

There's some great software being released for the Amiga these days, but no one can escape the fact that the PC market still has its share of market-leading products. Programs like *Professional Calc, SuperBase* and *Wordworth* are still looked upon as poor cousins in comparison to PC products like *Lotus 1-2-3, dBase* and *Word Perfect*. Like it or not, the PC still reigns supreme as the premier machine for business software. PC games are starting to advance in leaps and bounds too (if you don't believe me, ask your PC-owning friend to demonstrate *X-Wing*!), so it's no surprise that Amiga owners want a slice of the action. PC emulators are certainly nothing new, but up until now they've been almost exclusively hardware-based. Bitcon's KCS PowerPC board, Silica's AT-Once and even Commodore's bridgeboards rely heavily on PC hardware to keep the emulation running as fast as possible.

Now, Chris Hames, the author of *PC-Task*, has taken his PD software-based PC emulator one step further and it has been released as a commercial product. Promising full PC compatibility without the need for expensive hardware, *PC-Task* seems too good to be true.

SCREEN SCENE

If there is a spanner lurking in the works somewhere, it certainly can't be found in *PC-Task*'s impressive specification list. Very few of the hardware-based PC emulators fully support the full range of PC video adaptors, but *PC-Task* is the exception. Even on a standard Amiga, you can run *PC-Task* in MDA, CGA, EGA and even VGA screen modes. Obviously, you're not going to be able to display the full 256 simultaneous colours offered by a true VGA PC – that is, unless you own an AGA-based Amiga. It's a well known fact that the AGA chip set was designed to give the Amiga a certain amount of screen compatibility with VGA PCs and Chris Hames has been quick to make use of this. PC-Task supports the PC VGA modes 11, 12 and 13, the last of which can display a full 256 colours on screen. Most PC games, however, use non-standard screen modes so don't get too excited. *PC-Task*'s use of hard disks is very good as well. Unlike emulators such as the KCS PowerPC board and Silica's AT-Once, *PC-Task* doesn't insist that you reformat your hard drive just to set up an MSDOS partition. Instead, you can define an area of your hard disk that is locked off to AmigaDOS and assigned to the PC emulation.

Once set up, AmigaDOS is not even aware of its existence, so you don't have to worry about any file conflicts or accidental deletions. A word of warning, however – before you allocate a section of your hard drive to *PC task*, back up your hard disk. For reasons known only to MSDOS, I managed to corrupt an entire 80Mb partition on my hard drive despite the fact that I gave *PC-Task* only 10Mb of hard disk space!

PC-Task doesn't directly support PC format floppy disks, so you'll need to install an MSDOS device driver like MessyDOS or CrossDOS. If you're lucky enough to own an Amiga with Workbench 2.1 or 3.0, then this isn't a problem - CrossDOS can be found preinstalled on your Workbench disks.

EMULATION SENSATION?

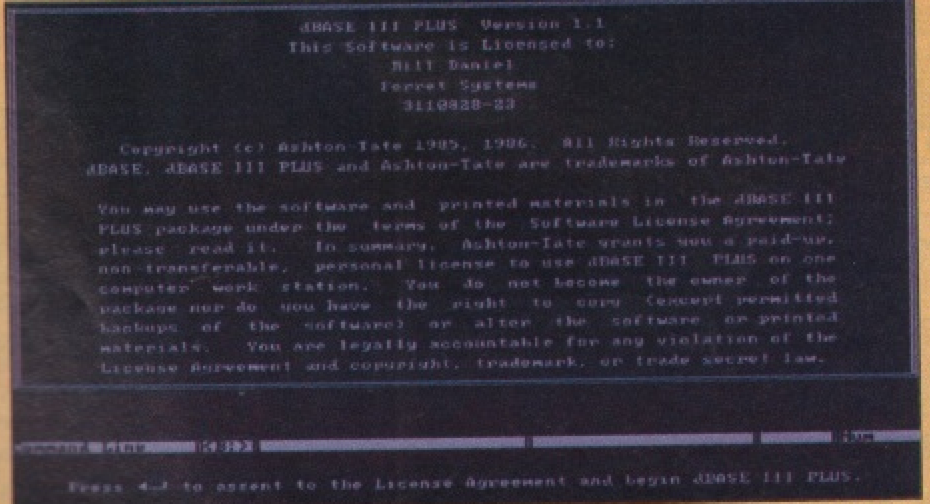
Software-based PC emulators have never been renowned for their speed of operation and *PC-Task* unfortunately isn't going to change this. Even on my expanded A1200 (which, according to SysInfo 3.11, runs almost five times faster than a standard A600), *PC-Task* achieved a Norton SI rating of 0.9.

Hardly impressive stuff when you consider that Silica's AT-Once card notches up a Norton rating of around 6. Screen handling is a real problem too – *PC-Task* redraws screens so slowly that most PC productivity programs run just too slowly to be useful. It has to be said, however, that the standard of emulation is very high. Although very few of the games that I tested even got as far as the title screen, MicroSoft's benchmark flight simulator Flight SimIV ran, if somewhat slowly, without problems.

Most productivity titles worked okay too: *dBase IV*, *Lotus* and *Wordstar* worked okay. Very few programs that opened VGA displays seemed to like *PC-Task*, however, so don't expect to get Windows running. Even if it did load, Windows is horrendously slow even on a PC so there's little point trying to run it on the Amiga with *PC-Task*!

Chris Hames has done a great job of making PC-Task as compatible as possible, but it's really not quite good enough to be a serious alternative to a hardware-based PC emulator, let alone a true PC. If you need to run PC software, then I'm afraid the only option is to either buy a real PC (second hand '286 PCs can be picked up for peanuts these days!) or plump for a hardware-based emulator.

PC-Task has its heart in the right place, but it's just too slow to be useful. *PC-Task* is a snail in wolf's clothing! CU



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EASE OF USE 84%
Once you've got a copy of MSDOS, PC emulation is just a mouse click away.

VALUE FOR MONEY 70%
£49.95 is rather steep when you consider that you can buy Commodore's AT Bridgeboard for around £100 these days.

DOCUMENTATION 80%
The PC-Task manual is brief but to the point.

FLEXIBILITY 85%
A multitasking PC emulator that is completely software-based is a formidable achievement.

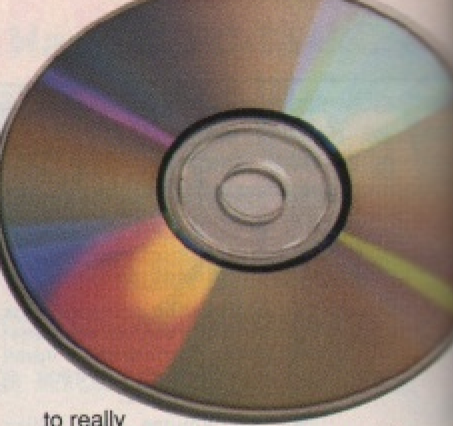
> *If you can't quite stretch to a full-blown PC emulator card, then PC-Task provides a low-cost alternative.*

OVERALL 78%

A MEETING OF MINDS

PART 2

What would happen if you brought together a bunch of Amiga enthusiasts, gave them a free bar and as much food as they could eat, and left a tape recorder running all the time? The answer is even more horrible than you can probably imagine. The following 'edited highlights' are only a fraction of what was said at our recent 'Amiga Conference', but this is a family magazine after all...



In the second installement of our informal get-together of some of the country's top Amiga enthusiasts, things begin to hot up. Our team of experts turn their attention to the future of games programming, the future of Commodore, the threat of 3D0, and whose turn it is to get the next round in...

Mat: With CD32 and the consoles, the trend is away from computers with keyboards, so what's going to happen to the programmers of the future, where are they going to come from?
Jolyon: This is a major problem. Consoles are completely different from the old Spectrums and C64s which where common currency when I was a youngster.
Seb: Programming's not nearly as accessible as it was. Basic was bundled with the Spectrum and was a good introduction without having to be certain that you wanted to program before diving in and forking out for all the equipment.
Wavey Davey: It used to be that you'd sit down and play a game, and you'd be using the keyboard, and there'd be problems involved with that and you'd think 'Oh, how can I do this, how can I do that?'. Now the stuff has become so easy to play. You just plug a cartridge in and you're there. You don't have to do anything. There's no thought involved.
John: You'll find a way of doing it. Just as MIDI has made music a lot easier, there'll be ways to make programming a lot easier too.
Jolyon: Look at the phenomenal success of AMOS. There are a lot of people who want to have a go at programming.
Mat: If people REALLY want to program then they'll go out and do it, but what about the people who didn't have that initial interest but drifted into it anyway because they found it easy?
Wavey Davey: You drifted into it because you had to. If you wanted a cheat in a game you had to type in POKES.
Jolyon: Exactly. You had to type in a fifteen line program.
Wavey Davey: Now if you want a cheat you press a button and move the joystick to the left three times and that's it.
Jolyon: It's going to be simple to turn the CD32 into a computer so that people can get into programming. Effectively it's still got the half meg Kickstart ROM inside it. They haven't taken any of that out, it's all there so you can plug in a keyboard with the optional add-on, and add disk drives, hard disks, all sorts of things.
Wavey Davey: But again, you've got to really want to. And you've got to know that that's an option. And then you've got to stump up a lot of money.
David: I think you'll find that if a kid's already got a CD32 and he wants to learn programming, he'll go out and buy an ordinary Amiga as there are plenty going second-hand.
John: As a means to avoid piracy, do you think publishers will produce CD-only games so that the 1200 won't have any games for it any more?
Stoo: People can get a CD ROM drive.
John: Is CD going to kill off floppy games totally?
Stewart: Maybe in 18 months.
Wavey Davey: I think that's a bit optimistic.
Jolyon: Could be. Depends on the success of CD32.
David: Or you might see the price of floppy games come down.
John: But companies are not going to produce two versions of a game, are they?

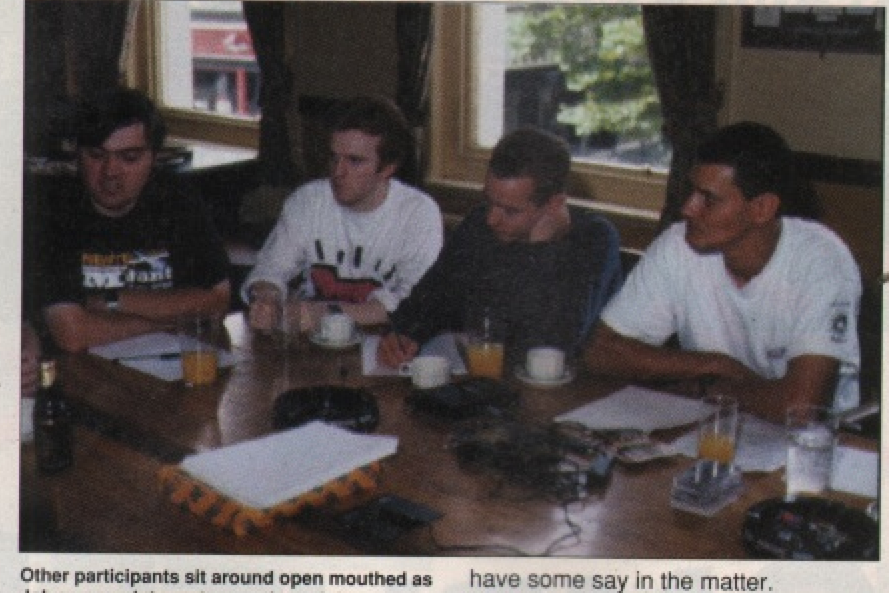
'Now that CD32 has arrived, I think we're going to see a lot of companies who abandoned the Amiga coming back to it.'

Eric: I think it relates to the installed base as well. You're not going to ignore floppy because the installed [user] base is so much greater.
John: For one game that sells on floppy how many get pirated?
Eric: Ten.
John: So you only need a user base a tenth the size?
Eric: Sure. But I can't even see a user base on CD32 which is a tenth the size of the floppy market within the next year.
Wavey Davey: Of course, the other point of view is that it's precisely because there's so much piracy that Amigas have sold so well. 'Oh I know a load of kids who can get me some disks, I'll go out and buy an Amiga, I'll get a load of free software.'
Mat: But what about Nintendo and Sega? They don't have that argument. True there are piracy devices for those machines but they're not being bought by the mainstream users. Nevertheless, their user bases are powers of times bigger than the Amiga market.
Wavey Davey: But how many cartridges do these people actually own?
Jolyon: My brother owns a Super Nintendo, he's had it for a year and he's got two games. One that came with it and *Starwing*. That's it. He hires games from a local video shop.



As the afternoon wore on, and the beer flowed freely, Mat actually managed to spend more time on the toilet than at the table. Hence he is now known around the offices as Walnut bladder.

Stewart: I remember reading somewhere that the average for cartridge buyers is something like six a year.
Wavey Davey: Doesn't that say something about the quality of the games, though? You might only have two or three games but you end up playing them a hell of a lot.
Jolyon: No, it's the price. There are plenty of games that he would like to buy, but he just can't afford them.
John: Do Nintendo and Sega actually limit the number of games that software houses can produce to try and increase quality?
Seb: Yes.
John: Will CD ROM be piratable?
Jolyon: It's piratable now if you've got the money.
John: Is it as piratable as the cartridges then?
Jolyon: It's not as easy to do wide-scale piracy. Playground piracy is impossible on CD.
Stewart: Well it would cost about five grand to start.
Jolyon: Yeah, you'd need a cutter, a 600 megabyte hard disk at least and a fast machine with preferably two SCSI controllers. It's not easy.
Stewart: Every copy takes half an hour to make, too.
Wavey Davey: But pirate boards are actually carrying CD titles on floppy now and they have been doing for a long time.
Jolyon: Oh yes. *Lemmings* on CDTV was only two megabytes of data.
Eric: Now that the CD32 has arrived, I think we're going to see a lot of the companies who abandoned the Amiga coming back into it. People like LucasArts and Sierra will be tempted to come back if the sales hold up well.
Mat: Haven't they already announced that they're going back to the Amiga?
Eric: I know Sierra have. This is the kind of game that comes on eight or nine disks and is far more appropriate on CD32 than conventional floppy.
Jolyon: I know that there are at least two or possibly three LucasArts' games that are due out on CD very very soon.

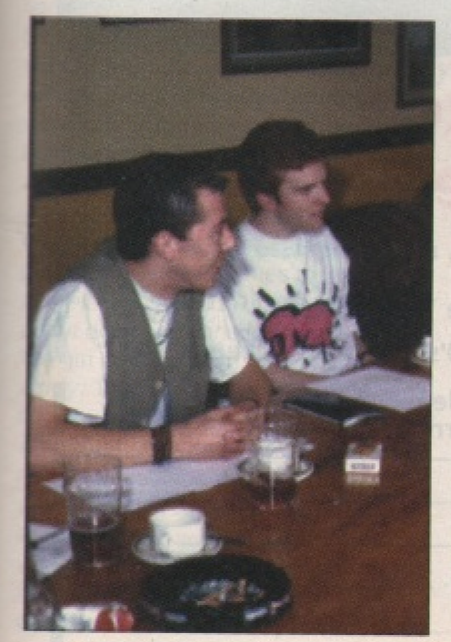


Other participants sit around open mouthed as Jolyon goes into motormouth mode!

Eric: CD32 versions?
Jolyon: Well, actually for CDTV. These are ones that CBM have been funding for a long time. They've held them back for their CD32 launch and I assume they're now being upgraded to 256 colour versions as well.
John: How important is it to have a game that makes the most of the CD32? Wouldn't a single CD disc containing fifty standard Amiga games be a good thing? Imagine such a disc being bundled with the CD32! Why doesn't CBM do that?

'There's a new Amiga-based machine which emulates an Apple Quadra and a 66MHz 486 PC'

Eric: The trouble is if you give away fifty good games, how long is it going to be before that person needs to buy another full price game?
Mat: If you give away fifty games with the machine, what incentive does the retailer have to sell the machine when he's not going to get any software sales for the next six months?!
Ben: That's exactly what happened to Atari.
Jolyon: That's why fifty is an unrealistic number. Five good games or at the most ten, the sort of stuff you'd get in a decent Amiga 1200 bundle plus a bit more.
Mat: They did six with MegaCD, didn't they?
Jolyon: They did a disk with six on. That would be enough to start with as long as they were good games.
Mat: Which apparently they weren't.
Jools: What about five different versions, so you've got the whole field covered? It must be possible.
Seb: Multi-format CD ROM disks?
Jolyon: The only ones that would present problems would be those that need the same boot sector of the CD. I know that CD-i and CDTV together are impossible because we tried and failed, though I'm not sure about CD32. Certainly there are already CD-i/PC disks floating around, and CDTV/Mac/Amiga disks would not be a problem. I'm not sure about Sega. I think Sega CDs have to actually be pressed by Sega.
Jools: I would imagine Sega would have some say in the matter.
Jolyon: They certainly would if you had a CD32 version on the disk as well!
Stewart: But it's all ISO 9660 isn't it, so it can all be read on a PC?
Jolyon: The problem is the copyright files in the ISO format have the boot sector set up to point to the copyright file as the CD32 does. That's the trademark file that you have to pay your $3 for. It's possible to work around that to produce something that's compatible and isn't CBM's and works.
Mat: This raises interesting questions about emulation. So far the Amiga has emulated other machines, but they don't yet seem to have got round to emulating the Amiga. How much longer will it be till that happens?
Jolyon: Till you can get a board to emulate an Amiga in a PC, for example?
Mat: Yeah.
Jolyon: Two reasons: firstly, why bother?
< General assent from around the table >
Jolyon: Secondly, there's a lot of custom technology on there which is owned by Commodore and which they have absolutely no intention of licencing out.
Mat: But that's also true of the Mac, yet if you buy the system ROMs you can emulate one on an Amiga. So you could buy the Amiga Kickstart ROMs and whatever.
Jolyon: But basically you would be buying a board without Kickstart ROMS, without CIA chips, without Blitters or any other chips.
Mat: So you'd simply be building a whole Amiga from scratch?
Jolyon: Particularly now with the AGA chipset, where everything's surface mounted.
Stewart: There was an Amiga laptop, wasn't there?
Mat: Yeah, but CBM reportedly blocked it.
Stoo: For the same reason.
Mat: A new Amiga-based machine has come out now which emulates an Apple Quadra and a 66MHz 486 PC and which retails at £3000 for the base level machine.
Jolyon: Is this based on Emplant?
Mat: I don't know. »



At the end of the day, the bar bill was more like a phone book than anything else!

WHO'S WHO

We invited some of the Amiga's top name developers and programmers along for our conference, but they couldn't come, so we had to do with this unlikely shower of freeloaders. If you want to put a face to the name and find out exactly what they do for a living, read on... 'Orrible isn't it?!!

MAT BROOMFIELD

Occupation: Technical Editor, CU Amiga



Background: Owned a series of computers since 1981. He co-owned two software shops and used to teach Basic to make ends meet. Life in the fast lane ground to a sudden halt when he joined the CU Amiga team in 1990. Among his interests he lists go-kart racing (at a recent meet he came last in every single race!), playing games (especially strategy ones), composing music and drawing. Is also a hard-core Star Trek fan and even manages to out-Trek Dan when it comes to show trivia.

TONY HORGAN

Occupation: Assistant Technical Editor, CU Amiga



Background: Tony has been writing professionally since he was sixteen and hopes that he will learn to spell soon. He was trapped into working for CU Amiga last year. A fanatic rave music fan, Tony aspires to become a freelance video and music producer. In his spare time composes commercial quality dance music tracks and shoots dance videos. Tony is also an up-and-coming DJ and is available for children's parties.

SEB LEE-DELISLE

Occupation: Programmer



Background: Seb currently works as a designer for Almathera who produce CD software. Although Seb used to play bass guitar in a band with his older brother, his real love is percussion. He has purchased a set of bongos for a bargain £300, and hopes to gain employment as a wandering minstrel. He hates being called Sebastian. Can often be found hiding in the toilet when it's his round.

ERIC MATHEWS

Occupation: Game designer



Background: One of the founder members of the Bitmap Brothers, Eric has the highest profile of almost any games designer in the industry. His contacts with Rhythm King records resulted in the first ever pop record soundtrack which appeared on Xenon 2. Eric is an unpretentious guy with a love of games and good beer.



Most people gave the CD32 the thumbs up despite an overwhelming lack of software.

Stewart: If it's Emplant it's not reliable.
Seb: What do you mean you don't know?
Mat: I can't say much more, but you'll see an exclusive review in an upcoming issue of CU Amiga.
Jolyon: It's extremely easy to translate a Mac if you've got a 68000, because basically all a Mac is, is a 68000 with a ROM and not a lot else.
Stewart: A crap disk drive as well.
Jolyon: And a PC you don't have to emulate because you can buy the bits straight off the shelf. Those two machines are especially easy to emulate. But the Amiga is particularly difficult to emulate.
Mat: So is there any point in a company bringing out this machine? It seems very useful in a publishing environment.
Jolyon: I can see it being very useful, not to the games industry but for the multimedia side of things. I can immediately see how Video Toaster or Scala on a PC would be a good thing. They're currently designing Scala for the PC, but it'll be very limited unless they have a specially designed graphics board, preferably with Amiga chips on it. It's impossible to do it on a PC without the Amiga's custom chips. Newtek are actually designing new generation Toasters which will be PAL compatible and will still rely on the Amiga. In fact at the Devcon, they were very adamant that they wouldn't be developing it for any other platform.
Jools: From a programmer's point of view, the ideal world would be Commodore, Sega and Nintendo putting their brand names to the 3D0, and that way we don't have to mess about doing versions for everybody. We get one standard, one machine.
Andy: That's the point of the 3D0, isn't it?
Mat: Yeah, they're trying to create the new 'world standard' with the 3D0 but are they going to achieve it, especially at $700?
Jolyon: 3D0 has got some very clever hardware in it, some very clever processors in it, but currently it's just too expensive to produce a 3D0. They cannot produce a 3D0 currently and sell it at the same price as CD32. It's impossible with the current prices of technology.
Mat: Do they need to, considering they aim to represent the next generation?
Stewart: The Amiga 1000 was overpriced when it came out.
Jolyon: But the Amiga 1000 didn't survive.
Stewart: The Amiga range did though. Imagine a 3D0 500!
Jolyon: The Amiga 1000 sold less in its existence than the CDTV did. CBM didn't have the faith to stay with the Amiga 1000 and it became successful eventually with the other Amigas. They ditched the CDTV after a similar period when it wasn't a success. 3D0 is not going to be a success the first year. It may not be a success the second year, but it probably will be a success the third year.
Mat: You don't think that rival technology will have caught up with it by then?
Stewart: By then a 486 will be incredibly cheap.
Jolyon: That's exactly the point. The threat to the Amiga and the CD32 is from the PCs primarily.
Stewart: If you buy an Amiga now, 1200, monitor, extra RAM, you could have bought a PC.
Jools: Just as you watch films on VHS, and listen to music on a standard audio CD, if you want games it's going to be 3D0. It'll become an absolute standard.
Jolyon: They said that about CD-i and that doesn't look like it'll succeed.
Andy: Bear in mind the thing that makes 3D0 special are the people behind it.
Jolyon: One of the other problems with 3D0 is that it's an expensive system to develop for.
Mat: Why?
Jolyon: The development kit for 3D0 is very expensive.
Stewart: You need a Quadra.
Mat: That's three grand, yeah? Nevertheless they've got more than 300 companies signed up for it.
Jolyon: I'm signed up for it. All you need to do to sign up for 3D0 is phone up 3D0, say 'Send me a form', sign it and send it back.
Mat: So it doesn't actually demonstrate any commitment whatsoever.
Jolyon: It didn't cost us a penny to sign up.
Mat: So what about signing up for CD32? What does that entail? Is there any commitment needed to do that?
Jolyon: Um, well, no not really. The only commitment is that when you decide to do a title you have to sign a licence agreement. In both cases it requires a three dollar licence fee per title you press, the difference being that on 3D0 you have to pay it at replication which basically means that your replication cost goes up by three dollars which is very significant. It's more than the cost of a disk which can make the initial production runs very expensive. On CD32, at least they decided that the licence would be charged on sale of the title. So at the end of the quarter you pay the licence for the stuff you've sold which is a lot more sensible. Therefore it's cheaper to develop and publish for CD32 at the moment. Certainly small companies like ourselves, who are risking their own money on it, find that there's a lot less to risk with CD32.
Mat: How are these development fees policed?
Jolyon: They have agreements with all of the CD ROM replication houses that they'll report back to them the number of disks pressed.
Mat: So what if you set up your own replication? Is that feasible?
Jolyon: Not really.
Stewart: If you have a warehouse in South Korea somewhere!
Jolyon: There are cheap plants going in Bulgaria apparently at the moment.
John: What was that you were saying about the 1200 being faster than the 4000?
Jolyon: Did I say that?
John: Allegedly!
Jolyon: Well allegedly, I've heard from 'unconfirmed sources' that the 4000's chip RAM is slower than any other Amiga. They basically screwed up the Chip RAM design – apparently.
John: So if you put an accelerator into a 1200...
Jolyon: It's possible that it would run anims faster than a 4000.
John: So why buy a 4000?
Jolyon: It's got Zorro slots. It's expandable. Actually Zorro III slots are a very good idea. Most people think 'Just put a card in and that's it' but there's a lot more to it than that. They are very complex to design and they did it well. Certainly a lot better than the ISO-bus in PCs.
John: But who uses the slots in a 4000?
Jolyon: Me! Games developers mainly and video people.
David: While we're talking about slots, »

'They cannot produce a 3D0 currently and sell it at the same price as a CD32. It's impossible with the current prices of technology.'

'Irving Gould and Mehdi Ali are extremely unlikely to allow a buyout unless it was highly favourable.'

BEN VOST

Occupation: Micropace PR/Technical Support



Background: Began his career as a shop assistant in a software shop, before going to work for the now defunct HB Marketing in Public Relations. Ben is fluent in German, French and Doublespeak. He likes reading comics and watching videos in his spare time and has recently got married.

DAVE WINDER

Occupation: CIX moderator



Background: Dave has been involved with computers for more years than he cares to remember and he incorporates it with the other love of his life – making music. Dave recently presented a late night music program on BBC2. Dave also moderates close to a zillion conferences on CIX.

ANDY LEANING

Occupation: Silica Systems PR Manager



Background: Andy took a University degree in computer programming prior to joining Silica seven years ago, consequently he now programs in about half a million different languages. Andy is apparently a bit of a keep fit fanatic and likes nothing better than a 75 mile jog to work each morning!

DAVID WARD

Occupation: Freelance journalist



Background: David is another of the happy band of computer users who started with a Sinclair Spectrum back in the early '80s. Since then he's gone through a succession of machines until he ended up with his leading-edge Amiga on which he runs... Spectrum emulators! He enjoys photography and playing role-playing board games such as Kingmaker.

STEWART SARGAISON

Occupation: Programmer



Background: Stewart's illustrious career began in 1980 when he worked for Supersoft. Although just a callow lad, Stewart used his Dad's Commodore Pet to create a 'classic' called *Halls of Death*, a game which he describes as 'A rambling epic of dragons and heroes set in an era before time began'. The game used character graphics and dragons were simply represented as the letter D.



Titus the Newt might be Mat's other nickname around the office, but this time the drinks were on him.

» has anyone heard the rumour about a 1200 Zorro slot that's coming out?
Stoo: Is that the A1400?
Jolyon: Personally I haven't heard as much rubbish in ages.
John: But the 4000 actually has an option for an '020 card so was there a 4000/020 planned?
Jolyon: You know the story about the 2200 and the 2400. Originally there were going to be four machines: the 2200 and the 2400 and the 3200 and the 3400. The first two to arrive were to be the 2200 and the 2400. The 2200 was to be a machine with two slots and the 2400 would be a 4000 style box with four slots. The difference being that it was a Kickstart 2 ECS motherboard and they actually had these as prototypes, which were otherwise very similar to the 4000. I believe there were 020 and 030 versions of that. Then the AGA chipset was completed earlier than anticipated.
Stewart: Three years late.
Jolyon: As opposed to five years. So the machines became obsolete overnight and there was no point selling what was originally going to be the 3200 and 3400 which were the AGA versions, so they dropped the two slot version and renamed it the 4000. So that accounts for all those magazine reports and Kelly [Sumner] going on about the 2400, and it wasn't just vapourware.
Stewart: Was there a 5000?
Jolyon: Lew Eggebrecht was over in July and he said that the next Amiga – he didn't call it the 5000 – that they're working on would be a high end machine using the triple A chipset, would run Windows NT operating system and would be based on the Hewlett Packard PA RISC chip.
Jools: And they're going to market it as what? A games machine!
Jolyon: As a serious graphics work station aimed at the low end user with a lower price than the Silicon Graphics Indi and it will be competing directly with that.
John: So is the 4000 the last Amiga as we know it?
Jolyon: Yeah, probably.
Mat: Eggebrecht said that they were going to work on an '060 version of the machine first.

'Now that I'm used to the Amiga, I find PCs so restrictive. Even so, Amiga software isn't that good.'

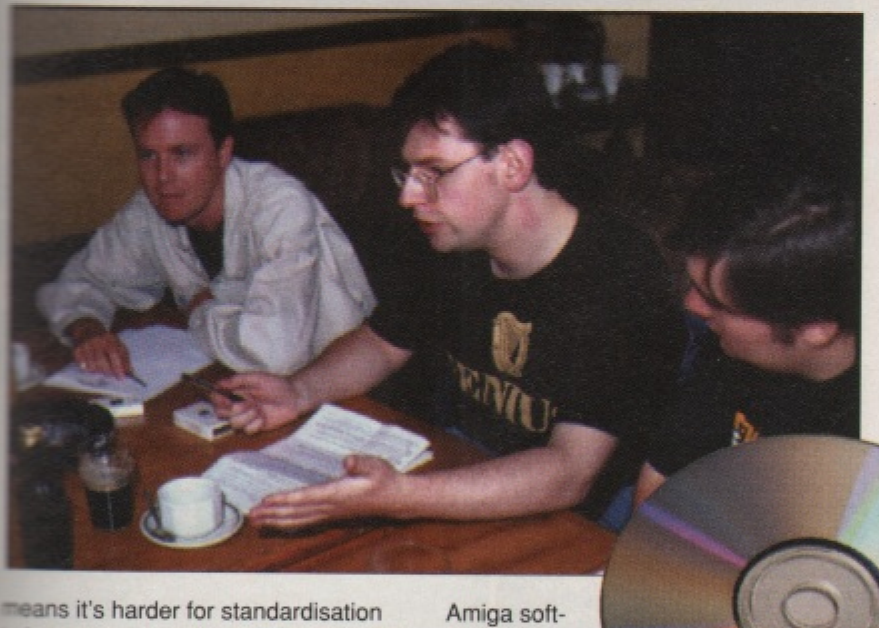
Stewart: No, 'cause Motorola's working on the PowerPC chip.
Jolyon: CBM have said many times that they are not working on a PowerPC based machine despite the obvious advantages that it would give. Hewlett Packard's is the one that they have chosen for their new machines simply because of the cost. The cost of the chip compared to its performance is much better. This chip was designed to work with Laserjets and the performance it gives at the price is a lot better than anything Motorola can offer.
Stoo: So the next Amiga will be a laser printer!
< Laughter >
Wavey Davey: I'm disappointed that they're going to go for Windows NT.
Jolyon: This is what Eggebrecht said in July. A report has gone up on CIX based on the postings of two people claiming to be CBM engineers, and although we can't be certain it seems likely. Although people were talking about a new CBM machine in a year, these guys say that there's absolutely no way. CBM just don't have the resources to do anything. All of their current engineering resources are going into CD32, everything else has been shelved. The original designer of the double A display enhancer for the 4000 has left and so that's probably been shelved.
Mat: Reading between the lines does this mean that if CD32 fails, CBM goes under?
Mat: There were rumours, which CBM denied, about them being taken over by larger Japanese suppliers...
Jolyon: I don't know anyone who'd want to take them over.
Ben: You don't lose hundreds of million of dollars in less than a year and walk away from it.
Jolyon: The trouble is the main shareholders at CBM, Irving Gould and Mehdi Ali, and some influential friends of theirs, are extremely unlikely to allow a buyout unless it was highly favourable to them, and I don't think anyone's got the money to be that extravagant. In any case, if CBM were bought out, it would be split up and it would be bought for its resources, and there are very few good people left now.
John: I heard they were giving staff a day off to go find a new job!
< Laughter >
Jolyon: And I heard all their managers were learning Japanese!
Jools: It's worrying when Kelly Sumner just quits like that.
John: And to work for a relatively small PC company.
Jolyon: CBM are gambling their whole business on CD32.
Stewart: And they're making their biggest push with the machine in Europe at the expense of the US.
Jolyon: They've apparently got no plans for advertising it in the US. They'll launch it but they're not going to advertise. In the US the Amiga is seen 100% as a video machine and it's got itself a good role there.
Ben: It's got itself a niche.
Stoo: A niche that the PC can chip away. All it takes is a decent card for the PC and suddenly they're gone.
Jolyon: Weeell, it would take a while to do that on the PC. The PC market has had seven years to catch up with the things the Amiga can do, and they haven't yet.
David: PCs rely more on the corporate market than the video market.
Jolyon: Within two years there'll be cards on the PC that can do all that the Amiga can do plus more.

'The Amiga 1000 sold less in its existence than the CDTV did. CBM didn't have the faith to stay with it.'

John: I love the Amiga. I work in University where I'm surrounded by DEC workstations and 486s and my Amiga 4000 leaves them for dead 'cause their editors are all stupid little character based things and the windows all use fake shading.
Jolyon: The Amiga operating system and Workbench are the best operating system I've seen on any computer.
Stewart: But people see the Macintosh as the big one.
Jolyon: The Amiga's far better than the Macintosh.
Stewart: But that's the problem. Nobody knows how good the Amiga is.
John: How come the Amiga got such a good operating system?
Jolyon: Because Mac didn't sue. Why do you think Windows is so bad? They're scared of Apple. If they'd put in anything that made it look like Macintosh they would have been sued. CBM already had those things in, and have had them for so long that Apple can't sue them.
John: Is there any chance of the Amiga Workbench living on as software for another platform?
Stewart: Well it's only single screen. On the Mac you can plug a new card in and you can move a window from one screen to another.
Ben: You can do that on an Amiga without having to buy a new card.
Jolyon: The advantage of the Amiga is that it does exactly the opposite. You can have more than one virtual screen on a monitor and just drag them down or flip to the back. There's no other operating system I've seen that does that, and yet it's far more productive.
Jolyon: Now that I'm used to the Amiga, when I have to use PCs I find myself so restricted by them. If you're using DOS, there's no standards. No standard file requestors, no standard menu system. Everything's different.
John: So how good is Amiga software compared to PC software?
Jolyon: It depends on the field. The Amiga is lacking decent industry standard applications like word processors.
Ben: The trouble with the Amiga is people design a word processor and they think 'That's it, I've done a word processor' and leave it at that. Unfortunately, they all try and design for the lowest common denominator. They don't try and push the machine to its limits. They don't follow guidelines set down by CBM unlike Apple Macintosh applications where they've got rigid guidelines set down all the time. This



The all-singing, all-dancing 3DO. Is it a threat to the success of Commodore's CD32?



means it's harder for standardisation to be achieved on the Amiga. Plus, the Amiga market is such a small market, there aren't hundreds of companies producing word processors like there are for the PC. On the PC there are so many rivals that they all have to go one better than the other and they are pushed to excellence by the competition, unlike the Amiga where it's down to *Final Copy II* and *Wordworth*.

Jolyon: It's no use writing serious software applications for the lowest denominator machine. A one meg A500 just does not cut it with software development. The other problem is price: no-one is going to pay £295 plus VAT for a word processor on the Amiga.

John: *Brilliance* has just been announced and that costs £200.

Ben: You'd never pay more for a package than the computer you're running it on.

Jolyon: A word processor is something aimed at just about every serious computer user whereas a paint package is being aimed at the video market in the States, the Toaster users, and that's why they're putting it at that price level.

Mat: Why specifically them? It has 24-bit support but it's not really even a 24-bit package.

Jolyon: Because they can't hope to compete against *Deluxe Paint*.

Mat: But they can. It's a superior package in every way.

Jolyon: If it's a superior package then they've got every right to charge more for it.

Mat: Not twice as much though.

Ben: I think you'll discover that price is artificial. You'll find a lot of special offers.

Jolyon: If you're going to do an application on the Amiga that was as good as Word for Windows, it would have to cost the same as Word for Windows, if not more so because of the limited user base.

John: Is the Amiga dead as anything more than a games machine.

Jolyon: There are things that can be done. For instance if they took the bridgeboard idea further and came up with dual processors, it would be possible to have a machine that could run Amiga software and Windows software on the same box, on the same monitor.

Ben: Part of that solution has to do with targetable graphics as well. It's being worked towards but it needs a lot more support.

Jolyon: It's not being worked towards. The last thing I heard from CBM was that Chris Green was handling targetable graphics and since he's left they're waiting for someone to take it over.

Tony: What are retargetable graphics?

Jolyon: At the moment the Amiga is very much based around the custom chip set so Workbench and whatever all open on that screen. You can't open Workbench at the moment on, say, a Harlequin card or another display device. The only way that that can be done is when companies such as Retina hack the graphics libraries so that Workbench can be opened on their card.

> **'Wouldn't a single CD32 disc with fifty standard Amiga games be a good thing?'**

Ben: The idea is that people don't write software that hits the machine, but that hits the libraries on that machine.

Jolyon: So you use the graphics library and it handles display transparently for you. Of course, it means not all games will work but I think we're looking at a different market now.

Ben: There's a stratification in the Amiga marketplace where you have the choice of using an A4000 for games or using it for productivity – one monitor won't display all the modes. A 1942 monitor is not bad as a low end monitor for a 1200 but it's no good for someone doing DTP; it doesn't display at a high enough resolution. So you move up to the 15 and 17 inch multi-syncs that don't scan down to 15KHz which means that you can't play games on the 4000.

Jolyon: This is what the AA display enhancer was meant to do. It was going to fix all this, it would basically be the same as a flicker fixer.

Andy: The Amiga is addressing too many markets so CBM don't know whether to pour resources into the A1200 and market it as a damned good games machine with workstation graphics or as a much more serious computer.

Jolyon: This is what they're doing now. Unofficial reports are coming out that they're pulling out of the higher end home market. This is a bit worrying for companies such as Newtek who rely on the Amiga.

Seb: The problem is they're losing all their development staff. Now if anyone wants to restart development they're going to have to go back to square one to figure out what's what.

Jolyon: Or they're going to have to spend a lot of money getting old people back.

John: So if CD32's a success, would that regenerate the company?

Jolyon: Yes, that's what they're hoping. They're shutting down all non-essential operations at the moment and saying 'Well, we'll have another look at the market when we have enough money'.

Mat: Sort of a corporate hypothermia. Diverting blood from the non-essential organs to feed the heart and brain?

Seb: Yes, exactly that.

Ben: When the A500 came out it was a fantastic machine and nobody could beat it, but they sat on their laurels for too many years.

Stewart: The 1200 should have been out long before it was.

Ben: Maybe that wasn't possible at a realistic price point, but they certainly should have standardised it more from the start and not left it. They had the philosophy 'If it ain't broke, don't fix it'.

Jolyon: The problem they had was that the A500 had the same chips as the 1000 and merely re-packaged them in a cost-reduced form. The trouble was that by then all of their Amiga 1000 designers had gone and they didn't have any of the designs left of the original chips, particularly the Agnus chip, which they had to totally reverse engineer in order to upgrade them. The ECS Agnus chip included only a minor change to the original Agnus, yet they had to go back down to the electron photographs of the chip's surface to work out what the bloody thing was doing!

Ben: I think what we might see is that Commodore as a company doesn't survive, but that the Amiga might still exist in a limited form perhaps taken over by another company.

Tony: Who would be in a position to do that?

Stoo: Atari!

Wavey Davey: Yeah, they'll bundle it with the Lynx!

Jools: There are a lot players with the capital and the reason.

Jolyon: It depend on CD32. If that shows any signs of being a success then a lot of companies are likely to show new interest in CBM. CU

STOO

Occupation: Graphic artist



Background: Stoo started out with a procession of unrewarding jobs before drifting into computing into computing five years ago. He designed the graphics for Cannon Fodder, Sensible Software's hot new strategy game. Although he started with a Vic20, he somehow overcame his tragic beginnings to become one of the finest Amiga gamers this side of Tiddlebrook Creek. He couints shoot 'em ups and strategy games as his favourite game types.

JOOLS

Occupation: Programmer-designer



Background: Jools is another one who's computer career started with the ZX81. He began trying to get his work published in 1983, but it wasn't until three years later that he was offered a job in the industry. His first game was a stunning masterpiece called, wait for it... Trevor the Swan. Funnily enough, this tour de force never saw the commercial light of day. He enjoys playing racing games and his hobbies include drinking, smoking, having another drink and falling over.

JOHN KENNEDY

Occupation: Freelance journalist



Background: Although John is currently in the last year of his Electronic Masters degree course, he began writing ten years ago when he had a ZX81 games listing published. Since then he's gone on to own just about every computer known to man, except the Oric and the Dragon. Among his interests he includes kite flying, Guiness, astronomy and motorbikes, although he tries not to do them all at the same time.

JOLYON RALPH

Occupation: Programmer



Background: Jolyon has been interested in computers since he was 12 years old when he won one as a prize at school. In fact, his London school was one of the first in the country to teach programming to kids. As if to prove that he wasn't a total computer egg-head, Jolyon went to university to study geology, but dropped out after a year to join Almathera (the family computer business).

NEXT MONTH

Blimey. They do go on a bit don't they?! And they haven't finished yet. In our next issue we'll be bringing you the third and final installment when we'll be discussing Amiga piracy, violence in gamnes, and what to have for lunch.

Profiles

Now the Amiga's really taking off as a force in commercial music, Tony Horgan gets the low-down from a couple of rising stars.

NEOPHYTE



Have you heard the new one from Neophyte? You know, it goes boom chick boom chick....

Holland: the land of windmills, canals, dykes, clogs, cheese and a horribly-good national football team. Now the Dutch have got something else to shout about. It's called gabber.

Gabber is an insane relative of hardcore – the musical equivalent of banging your head against a brick wall (whilst shouting 'Yip! Yip!' for no apparent reason). Unlike your standard breakbeat hardcore, gabber revolves around the simplest two-beat loops imaginable, at speeds of 160bpm upwards. Wild distortion and short-clipped samples are the order and although this isn't novelty stuff, a sense of humour certainly helps if you want to get off on it.

ROCK HARD

Like many others, Neophyte have been banging out tracks on their Amigas for some time. Unlike most though, these boys have taken the hobby a step further than the bedroom studio, and cut themselves a six-track EP. Entitled The Three Amigas EP, it's a pounding series of rock-hard tunes that could wake the dead – and then kill them again.

Neophyte are three like-minded musicians hailing from Rotterdam, the gabber capital of the world. Robin Von Roon, Danny Greten and Jeroen Streundeng have only been making music on their Amiga for about 18 months, and already they've got themselves a big underground hit. The Three Amigas reached number 3 in the Dutch dance chart, and even as an import it's been making waves in the harder clubs of the UK.

GABBER

The trio were formerly part of a demo crew called Megaforce, supplying soundtracks to go with the coders' visuals. When the switch came from demos to commercial releases, they continued to use Protracker for all the sequencing. Everything is done on a single 1Mb A500, which just goes to show that absolutely anyone with a bit of talent and the most basic setup can produce professional results.

With the dance music market now split into so many camps that it's quite rare that there's much money to be made from a dance release that's not specifically aimed at the pop charts, so it looks as if the Neopphyte boys will be sticking with their Amiga setup, for now at least.

Career highlights so far have included playing to an audience of 15,000 at a televised gig earlier in the year. Neophyte's next release is due out any day now. 'Can you give us some idea of what it might sound like?' I asked the lads. 'Gabber!' came the simple reply. Keep an eye out for The Three Amigas EP and any future releases from the Neophyte boys on Rotterdam Records.

The Three Amigas EP is available on import from Rotterdam Records on 010 3110 486 1440 (fax only).

VOLKER TRIPP



Tense nervous headache? What you need is a bit of The Three Amigas EP!

Yet another rising star from the ever-buzzing demo scene, Volker Tripp is a musician on a mission. Not content with making a name for himself as one of the most admired musicians on the scene, the German tunesmith is now branching out into releasing his own Amiga-created tunes on professionally-produced cassettes, increasing his current audience base even more.

Under the pseudonym of Jester, he's known to thousands for his tunes that have graced numerous classic demos, many of which have been collaborations with the well-respected demo crew, Sanity.

Volker's first release is Minimal Art: Simplicity. This is a seven-track collection of surprisingly good pop songs. Volker says his Influences include bands such as the Pet Shop Boys among others, and it definitely shows through in the songs on the tape.



TRACK RECORDS

Track one is a rather short, but it has an interesting intro featuring samples of the PSB themselves. The rest of the tape wouldn't sound out of place on any daytime pop radio station, which can't be at all bad for Volker's future career prospects.

Vocals on the tape are courtesy of Carsten Klein-Hitpaß, who also performed recording and mixing duties on the tape.

MIDI MIXING

When he can find time to break off from writing more music for Sanity and the demo scene in general, Volker will be making a start on his next project. For this he hopes to re-record some of his best demo tunes in a professional studio, expanding the original 4-channel tracks with the help of plenty of MIDI synths.and modules.

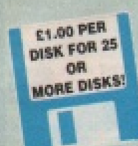
The cover artwork from Volker Tripp's Minimal Art: Simplicity mini album.

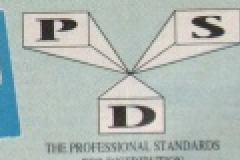
The only problem is that he's about £1,000 short of the required studio fees. So, he's looking for financial backing for the project at the moment. [*Okay let's have a whip round then. Ed. No stop it Vampyra – I meant money not your cat o' nine tails*]

The most likely solution for the cash flow problem would be to sell the idea to a cash-laden record company, and with a few hundred tapes already run-off complete with full-colour covers and track listings, he's certainly got his demo tapes sorted.

Ideally though, Volker would finance the project himself, although that could take some time. Maybe if he can shift a few more of these tapes...

Minimal Art is available from Cynostic, Office O1, New Enterprise Centre, Little Heath Industrial Estate, Old Church Road, Coventry, CV6 7NB. Price: £6 plus 50p post and packing.





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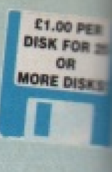
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U153 **MYSTIX HARDWARE MCD COMP 1** Useful info
U155 **KEFRENS METALLION UTILS**
U169 **DESIGNER DISK SET** (3 Disks) Understand Amiga better
U183 **HACK PACK** (2 Disks) 72 Utils for code busters
U190 **SID V2.0** Dir tool, excellent
U191 **DELTRAX UTILITIES 1**
U192 **DELTRAX UTILITIES 2**
U195 **LITTLEBENCH** Alternative WB
U196 **BROTHERHOOD UTILS 1** Diskwork
U197 **BROTHERHOOD UTILS 2** 30 in all
U198 **BROTHERHOOD UTILS 3** Virus killers etc
U206 **ENERGY UTILITIES** – 37 in all
U229 **GAMES CHEAT LIST 2**
U230 **INSTALL** Install your disks without the CLI
U237 **THE GURU V2.0** A500+/A600. For your kick
U241 **WHAT IS V1.2A** File utility
U242 **MSH V1.3** Handles MSDOS files
U260 **SUPERLOCK V1.01** Security prog. lock off Amiga
U262 **DARKSTAR UTILS 2** Full of ideas
U263 **DARKSTAR UTILS 3** lots
U264 **DARKSTAR UTILS 4** more
U267 **ARP V1.3** Alternative commands
U271 **NBS SPEEDBENCH** Fast loading W/Bench
U282 **SUPER C DIR TOOLS** Fast use of C
U288 **EYE OF THE BEHOLDER CLUES** Hints
U297 **COMPUTEREYES ICONS**
U308 **AMOS COMPILER UPDATE 1.34**
U318 **MULTIDOS** PC>Amiga
U320 **CLI-UTILS** Very useful
U321 **AMOS 1.34 UPDATE**
U323 **WINDOWS BENCH V2.0** (2)
U330 **FLASHDISK RELEASE 3** Optimiser
U331 **ASSASSINS HANDY TOOLS V1.0** 15 utils
U332 **ASSASSINS HANDY TOOLS V3.0**
U343 **WORKBENCH HACKS** (A500+/A600*)
U346 **PROF DEMO CREATOR V1.1**
U349 **SUPER POWER PACKERS** *
U350 **MYSTIX MOD 3**
U351 **WORKBENCH HACKS**
U352 **C-COMMANDS**
U356 **PHANTASMAGORIA** Hardware Collection
U361 **ROM** Directory util
U391 **HACKTAR 1.6** Adv Creator
U392 **STD CODE FINDER U.K.**
U393 **RAD BENCH 1.4** Make use of your RAM
U396 **FILE FINDERS & Q MOUSE**
U399 **TOGGLE CLICK** A600/A1200 only-Stops drive click
U404 **ENGINEERS KIT** Diagnostic tools
U405 **SLEEPLESS NIGHTS 3** (A1200 only) Utils
U408 **TOOLS FANTASTICA**
U411 **A1200 UTILS**
U383 **LSD LEGAL UTILS 32**
U417 **LSD LEGAL UTILS 33**
U418 **LSD LEGAL UTILS 34**
U384 **LSD LEGAL UTILS 43**
U385 **LSD LEGAL UTILS 44**
U386 **LSD LEGAL UTILS 45**
U387 **LSD LEGAL UTILS 46**
U388 **LSD LEGAL UTILS 47**
U419 **LSD LEGAL UTILS 48**
U389 **LSD LEGAL UTILS 54**
U390 **LSD LEGAL UTILS 55**
U412 **LYAPUNOVIA** Picture generator
U413 **ARESTAURE** Mends deleted files
U414 **FAST INTRO MAKER**
U415 **P-COMPRESS** Packer
U416 **S-TEXT** Text packer
U420 **A1200** WB Hacks
U421 **KINGFISHER** Fish index to 840
U422 **ANDYS WB3 UTILS** Brill!!
U423 **LYAPUNOV** Fractal generator
U424 **ICON AUTHOR** Iff images for Icons
U425 **AUTOSAVE** Save at intervals automatically

BUSINESS

BU86 **JOURNAL** Accounts, simple to use
BU96 **AMIBASE V3.76** Database
BU104 **BANK'N** Cheque account
BU105 **AMICASH BANKIN** Accounts
BU106 **Q BASE & SPREADSHEET** Addresses
BU108 **VISICALC SPREADSHEET** Like Lotus 123
BU111 **ANALYTICALC** * (2) Spread-sheet, powerful
BU112 **FLEXIBASE V2.0** D/Base
BU124 **BUSINESS CARD MAKER**
BU128 **SCALC & WORDWRIGHT** Spread/w. proc.
BU129 **WORDWRIGHT & SPELL** W/proc and check
BU131 **U-EDIT W/PROCESSOR**
BU132 **TEXTPLUS W/PROCESSOR**
BU133 **600 BUSINESS LETTERS** Just load 'em in
BU134 **QED TEXT EDITOR**
BU135 **AMIGAFOX DTP V1.1** Puts pics with text
BU136 **AMIGASPELL** Spellchecker
BU137 **WORD FRENZY-DBASE & SPELL**
BU138 **AMIGAFOX V1.0** W/Processor
BU145 **TEXT ENGINE V4** W/Processor latest
BU152 **AMIBASE PROF II V1.2** D/Base
BU158 **MICROGMUEMACS** Text editor
BU162 **A-Z SPELL** Spellchecker
BU171 **ILLINOIS LABEL PRINTING**
BU17? **INVOICE PRINTER**
BU185 **HOME BUSINESS 1 – NAG** Diary
BU186 **CLERK V4.0** Accounts – latest
BU204 **MAIL-O-DEX** Mail Database
BU212 **LABEL DESIGNER**
BU213 **TEXTRA** Text editor
BU231 **SPELLCHECK V1.2**
BU248 **CHECKBOOK ACCOUNTANT** Very good
BU251 **BUDGET V1.3-4** Finances
BU252 **ANNOTATE**-A500+/A600 ONLY. Text editor
BU253 **ANALYRIM** (2 Disks) ** S/Sheet + D/Base
BU254 **SUPERSPELL** Global spell check
BU301 **FORMS UNLIMITED** Loads
BU304 **P SUITE V1.4**
BU314 **P WRITER** Text editor
BU324 **WORDPOWER** Thesaurus
BU325 **EDWORD** W/Processor
BU326 **ADDRESS BOOK**
BU327 **BOILER PLATE** W/Processor & Bus. letters
BU328 **LITTLE OFFICE** WP, S/S, D/B + Graphix
BU329 **MORTGAGES ANALYSER**
BU330 **PRINT A CARD** Design
BU331 **LCD CALCULATOR**
BU332 **AMIGA MAIL** Address lists
BU333 **MAILBASE** Addresses & labels
BU334 **PC FORM LETTERS**
BU335 **PAY ADVISE ANALYSER** PAYE, NI etc
BU336 **MONEY PROG** * Good accounts
BU337 **CHEQUE BOOK** Accounts prog
BU339 **D LAB** Disk labeller
BU340 **LOGINFO** Phone bills for modem
BU341 **EASYCALC** New spreadsheet
BU181 **B BASE II** Database
BU319 **ORDER v1.7** Database
BU342 **LS LABEL** Label print
BU343 **DATABASE WIZARD**
BU398 **ADDRESS PRINT v3.0**
BU399 **TEXTPLUS v4.0** Hard Drive only
BU400 **ENVPRINT** Address envelopes

HOBBIES

H 57 **GENEAOLOGY** * Family tree
H 88 **CROSSWORD DESIGNER**
H148 **A-GENE** Family history
H175 **GOLF RECORDER v 1.84**
H202 **ROAD ROUTE USA**
H205 **DIETAID**
H214 **FOOTBALL LEAGUE EDITOR**
H232 **AUTOGRAPH** Petrol consumption
H247 **CALORIE BASE** For recipies
H250 **DARTS LEAGUE D/BASE**
H298 **CULT TV VOL 1** TV series info
H299 **WHDM 2** Data on TV progs.
H302 **LAST WILL & TESTAMENT**
H305 **ASTRO 22 v 3.0** Latest astrology
H307 **FAMILY HISTORY D/BASE**
H310 **TEN PIN BOWLING D/BASE**
H333 **AMIGA PUNT** Horse racing
H336 **PERM CHECK v1.0** Pools predicter
H342 **STITCHERY** Cross stitch work
H359 **RACE RATER** Horse predicter
H360 **QUESTION ATORT** Quizmaker
H361 **NEW BIORYTHMS** Excellent prog.
H362 **WINE MAKERS D/BASE**
H363 **CYCLING M** Useful
H364 **DARTS MACHINE** Score recorder
H365 **AMYGEN** Family history
H366 **POOLS WIZARD** Demo
H367 **MING SHU** Chinese Astrology
H368 **ASTRONOMY 2** Data generation & graphics
H369 **AMERICAN FOOTBALL** (2 Disks) Game info & rules
H370 **LANDSCAPE GARDENING**
H371 **GENEOLOGIST**

COMMUNICATIONS

C 25 **COMMSOFT** Needs C26
C 26 **COMMSPANION** Needs C25
C 62 **AZ-COMM** Modem programme
C 71 **SUPERTEX v2.1** Videotex term Em.
C 76 **MODEM UTILS** Access!v1.4,CNet
C187 **VT 100** Terminal Em.
C222 **JR COMM v1.02** For modems
C249 **TERM II v1.1** Comms prog WB2/3
C303 **OPTI COMMS** Inc.N Comm 2
C347 **SATELLITE TRACKER**
C357 **AMATEUR RADIO 11** Propagation etc
C358 **AMATEUR RADIO 2** PIC, Previews etc
C359 **AMATEUR RADIO 3** CONNplex, Ham etc
C360 **AMATEUR RADIO 4** Morse, Speech etc
C361 **AMATEUR RADIO 5** Ta-term, BBS etc
C362 **AMATEUR RADIO 6** AVT, PicLib etc
C364 **AMATEUR RADIO 8** Master Driver
C365 **AMATEUR RADIO 9** Morse tutor
C366 **AMATEUR RADIO 10** Terminal 1.2
C367 **AMATEUR RADIO 11** Satloc etc
C368 **AMATEUR RADIO 12** Satellites
C369 **AMATEUR RADIO 13** Ami-pack 1.51
C370 **AMATEUR RADIO 14** Ami-pack 2.0
C371 **AMATEUR RADIO 15** Logbook
C372 **AMATEUR RADIO 16** Access 1.42
C373 **AMATEUR RADIO 17** Access !
C374 **AMATEUR RADIO 18** Radio log
C375 **AMATEUR RADIO 19** Telecomm
C376 **AMATEUR RADIO 20** Satellites
C377 **AMATEUR RADIO 21** Satloc
C378 **AMATEUR RADIO 22** Satellites
C379 **AMATEUR RADIO 23** Comms
C380 **AMATEUR RADIO 24** Admin.LAN
C381 **AMATEUR RADIO 25** Comms-sys
C382 **AMATEUR RADIO 26** Domain TEXT
C383 **N COMM v3.0** Latest
C384 **8BBBS** (3 disks) Bulletin board system

EMULATORS

EM 87 **SPECTRUM + 40 GAMES**
EM139 **A64 v1.0** C64 emulator
EM141 **IBeM** PC emulator
EM143 **ST EMULATOR**
EM144 **SPECTRUM**
EM149 **C64 GAMES DISK 1** use with
EM150 **C64 GAMES DISK 2** emulator
EM215 **A64 EMULATOR v2.0*** (2 disks) Latest C64 emulator
EM216 **PC TASK** * PC Emulator
EM217 **ZX SPECTRUM EMULATOR**
EM306 **MS-DOS PROGS FOR PC TASK** (6 Disks)

EM324 **KICKSTART 2** 1.3 users get this!

EM397 **NUMPAD** (A600 ONLY) Numeric keypad

EM400 **KICK 1.3** (kickstart 2 & 3 only) Degrades to Kickstart 1.3

EM406 **SPECCY EMULATOR v1.6** (2 Disks) Latest
EM410 **DEGRADER** Degrades to 1.3
EM411 **PC TASK v 2.0** Emulator (WB3 use EM400)
EM412 **FAKEMEM** Degrades to 1.3/512k
EM413 **KILL AGA v2** Turn off AGA chipset

PRINTER DRIVERS

PD177 **PRINTER DRIVERS** (2 Disks) Loads of 'em!
PD200 **PRINTER DRIVER GENERATOR** Make your own
PD275 **JOY OF PRINTING** Drivers + fonts
PD281 **PRINT STUDIO** 41 drivers – good
PD327 **CANON PRINTER DRIVERS**
PD328 **PRINTER DRIVERS UPDATE 3**
PD335 **PRINTER DRIVERS** Canon BJ10e
PD354 **PRINTING UTILS v1.0** PPtype, PPshow etc
PD358 **CANON PRINTER DRIVER** BJ130 etc
PD407 **PRINTER DRIVERS COLL** Star/Epson/Panasonic/HP
PD408 **HP550C Printer Driver**

COPIERS

CP147 **PD COPY PROF v3.0**
CP189 **D COPY v1.6** Excellent
CP234 **FLASH COPY** Multi-tasking
CP257 **FREE COPY v1.8** Removes protection
CP313 **NIB v2.0** Removes protection
CP340 **ASI CRUNCH 'N' COPY 2** Collection
CP341 **COOL COPIER v2.0** Fast & safe
CP348 **ASI DISK COPIERS** Collection
CP349 **LOCK PIC 2** Remove protection on 400 games
CP350 **D COPY v3.1**

PROGRAMMING

PR 47 **C LANGUAGE MANUAL** (3 Disks)
PR 49 **C LANGUAGE COMPILER**
PR 55 **PROGRAMMING DISK 1** Language info
PR 72 **PASCAL LANG PROG**
PR 94 **POWER LOGO v1.0** Lisp & Logo
PR110 **PDC** (3 Disks) Programmers aid
PR118 **BC-FORTRAN**
PR166 **AMIGA CODERS CLUB** (6 Disks)
PR225 **CURSOR COMPILER** Basic language
PR239 **DME V1.45** Programmers Text Editor
PR243 **DICE v2.06.0** (2 Disks) C Environment
PR244 **PCQ v1.2a** (3 Disks) Pascal compiler
PR326 **SOZOBAN C DISK** AZ Text link compiler
PR355 **ASM ONE** Assembly package
PR357 **EZASM** Assemblers
PR358 **C MANUAL** (12 Disks) The best yet!
PR359 **NORTH 'C'** v1.3 (2 Disks)
PR360 **LATTICE 'C' (3 disks)**

GRAPHICS

GU163 **3D FONTS** (3 Disks)
GU168 **CARTOON BRUSHES**
GU219 **TV GRAPHICS** (2 Disks)
GU226 **GRAPHIC UTILS**
GU227 **REAL 3D FONTS**
GU228 **REALTIMES** (2 Disks) 3D Pics
GU240 **RICK PARKS ART**
GU245 **BOOTPIC V1.2**
GU246 **CLIP-ART PORTFOLIO** (15 disks)
GU261 **LARGE FONTS DISK**
GU265 **SCANNES CLIP-ART** (3 Disks)
GU266 **PG CLIP-ART**
GU268 **EXILE FONTS**
GU269 **DYNAMITE FONTS**
GU270 **FONTS & SURFACES**
GU272 **CLIP-ART COLL** (8 Disks)
GU273 **CLIP-ART VOL 1** (7 Disks)
GU274 **FONTLIB**
GU276 **SOMETHING FOR NOTHING 1**
GU277 **SOMETHING FOR NOTHING 2**
GU279 **DYNAMITE FONTS 2**
GU280 **HACK FONTS 1** (2 Disks)
GU283 **COSMOPOLITAN FONTS 1**
GU284 **COSMOPOLITAN FONTS 2**
GU285 **COSMOPOLITAN FONTS 3**
GU286 **COSMOPOLITAN FONTS 4**
GU289 **SONIC DEV CONVERTERS PACK**
GU290 **BEATRIX POTTER CLIP-ART**
GU300 **GELIGNITE FONTS**
GU309 **RAY DANCE** (2 Disks)
GU310 **T.S.P. PICTURE FONTS**
GU311 **DISK MANAGER + FONTS** (Plus only)
GU312 **SHADOW MAKER**
GU313 **MOVIE MAKER**
GU314 **ANIMATIONS BRIDGE V1.0**
GU315 **PLOTTING & GRAPHICS**
GU316 **DOCK ICONS**
GU317 **ASSASSINS MULTI-VISION V1.0**
GU318 **THE SNOWMAN CLIP-ART**
GU319 **PAGESTREAM 2.1 FONTS** (Disks)
GU320 **WALT DISNEY CLIP-ART**
GU321 **MAGNETIC PAGES V1.3**
GU322 **COMPUTEREYES FONTS PACK 1**
GU323 **COMPUTEREYES FONTS PACK 2**
GU324 **COLOURED ICONS**
GU325 **GRAPHICS RIPPER**
GU362 **DIRECT ACTION** Anim creator
GU363 **M.A.K.** Mandelbrot adv kit
GU402 **FREE PAINT** Copy of DPaint
GU403 **VIEWTEC v1.02** AGA graphics display
GU404 **FONTS DISK 1** Large & small
GU405 **DIGI FONTS** Good variety
GU406 **COLOUR FONTS 1** Modern, Olde, Pica
GU407 **COLOUR FONTS 2** Marble, Rocks, Grids
GU408 **COLOUR FONTS 3** Dimond, Eye, Sun
GU409 **COLOUR FONTS 4** Digi/Font brushes
GU410 **COLOUR FONTS 5** Cinnam 8, 16 etc
GU411 **COLOUR CLIP-ART** Hi/Med/Low for DTP
GU412 **COLOUR CLIP-ART** Animals
GU413 **CLIP-ART** Animals B&W IFF
GU414 **CONTACH CLIP-ART 1** Cartoon, Zodiac, Cartoon
GU415 **CONTACH CLIP-ART 2** Buildings, Xmas, Transport
GU416 **CONTACH CLIP-ART 3** Signs, Teddys, Work
GU428 **VIEW 3.2** Anim Player
GU429 **HAM LAB PRO V2.08** picture converter
GU417 **GRAPHICS TOOLS 2**
GU418 **RAYSHADE** (3 Disks)
GU419 **PRO PAGE TEMPLATES**
GU420 **PRO PAGE HELP**
GU421 **DPAINT TUTOR** Learn to use it
GU422 **SPECTRA PAINT**
GU423 **THE DESIGNER** Arcade backgrounds
GU424 **RJ UTILS** Perfect Paint, Image W/Shop
GU425 **FONT FARM 3**

MUSIC UTILITIES

MU182 **FUTURE COMPOSER** Sound tracker
MU193 **OCTAMED v1.0b FF579** Music editor
MU256 **MULTI-PLAYER V1.11A** Music
MU315 **POWER PLAYER V2.1** Plays modules in MED
MU316 **PLAY & RAVE V1.0** (2 Disks) Link modules together
MU317 **DENNIS SAMPLES DISK 2** Madonna. Peeper
MU318 **DENNIS SAMPLES DISK 3** Baby cough etc
MU319 **DENNIS SAMPLES DISK 4** Telephone, Big Ben, Wind
MU321 **DENNIS SAMPLES DISK 6** Mutant Turtle, Star Trek
MU322 **DENNIS SAMPLES DISK 7** Heavy monster etc
MU323 **ASSASSINS AUDIO MAGIC VOL 1.1** Lots – Superb!
MU324 **ASSASSINS AUDIO MAGIC VOL 2** Trackers and Players
MU325 **SOUND APPLICATIONS A & B** (2 Disks)
MU326 **MEGA MON v 3.20**
MU327 **SAMPLE MAKER**
MU328 **CASIO CZ-101**
MU329 **DX 100**
MU330 **PENDLE EUROPA**
MU331 **AUDIO ANIMATION STUDIO**
MU332 **INSTRUMENTS & SAMPLES** Use with Sound Tracker
MU333 **PROTRACKER v2.2**
MU334 **NOISETRACKER v2.0**
MU335 **SOUND TRACKER v4.0**
MU336 **PROTRACKER v2.3** Latest
MU337 **ASI AUDIO MAGIC Vol 3** Trackers
MU338 **ASI AUDIO MAGIC Vol 4** Inc Pro Tracker v3
MU2 **MODULES ONE**
MU3 **MODULES TWO**
MU4 **MODULES THREE**
MU5 **MODULES FOUR**
MU6 **MODULES FIVE**
MU7 **MODULES SIX**
MU10 **ST-01** – 118 samples
MU11 **ST-02** – 134 samples
MU12 **ST-03** – 79 samples
MU13 **ST-04** – 90 samples
MU14 **ST-05** – 71 samples
MU15 **ST-06** – 104 samples
MU16 **ST-07** – 60 samples
MU17 **ST-08** – 48 samples
MU18 **ST-09** – 89 samples
MU19 **ST-10** – 66 samples
MU20 **ST-11** – 79 samples
MU21 **ST-12** – 96 samples
MU22 **ST-13** – 82 samples
MU23 **ST-14** – 94 samples
MU24 **ST-15** – 33 samples
MU25 **ST-16**– 79 samples
MU26 **ST-17** – 90 samples
MU27 **ST-18** – 80 samples
MU28 **ST-19** – 84 samples
MU29 **ST-20** – 92 samples
MU30 **ST-21** – 80 samples
MU31 **ST-22** – 46 samples
MU32 **ST-23** – 14 samples
MU33 **ST-24** – 26 samples
MU34 **ST-25** – 41 samples
MU35 **ST-26** – 150 samples
MU36 **ST-27** – 110 samples
MU37 **ST-28** – 93 samples
MU38 **ST-29** – 48 samples
MU39 **ST-30** – 80 samples
MU40 **ST-87** – samples
MU41 **ST-89** – samples
MU42 **ST-90** – samples
MU43 **ST-92** – samples
MU44 **ST-93** – samples
MU45 **ST-94** – samples
MU46 **ST-97** – samples
MU47 **ST-98** – samples
MU339 **OCTAMED V2.0** 8 channel MED
MU340 **CDTV PLAYER** Simplifies audio CDTV
MU341 **SUPERSOUND v2.1** Sound sampling all effects
MU342 **SOUND** Sample player
MU343 **DESKTOP GUIDE TO ELECTRONIC** (3 disks)
MU344 **TAB MASTER** Music to guitar
MU345 **POWERCUTS** Good sound effect

EDUCATION

E1 **EDUCATION DISK 1** German tutor etc
E2 **EDUCATION DISK 2** Geography etc
E3 **EDUCATION DISK 3** Nature, bugs etc
E4 **EDUCATION DISK 4** Weather etc
E5 **EDUCATION DISK 5** Calendar etc
E6 **LEARN & PLAY** (2 disks) Early learning
E7 **WORD GAME VOL 1**
E8 **WORD GAME VOL 2**
E9 **MATHS DRILL**
E10 **TYPING TUTOR**
E11 **KIDSPAINT** Colouring book
E12 **SIMON'S COLOURS & SPACE MATHS**
E13 **STORYLAND 2** Save toyland
E14 **TC ASTRONOMY** Book on a disk
E15 **TC DINOSAURS** Learn about them
E16 **PAIR IT** Learn about shapes
E17 **SPELLCHECK** Learn foreign words
E18 **TRANSLATOR** Spanish, French, Italian
E19 **COLOUR IT V1.3** For younger kids
E23 **COLOUR THE ALPHABET** Very good
E24 **DTP – FOR KIDS** Excellent
E25 **ALGEBRA**
E26 **MATHS WIZARD** Let the Wizard help
E27 **AMOSAGRAM** Playing with words
E28 **BLACKBOARD MATHS**
E29 **KING JAMES BIBLE** (4 disks)
E30 **MR MEN STORIES** All your favourites
E31 **READY ROBOT** Full of games
E32 **SCIENCE 3 –** Physics
E203 **MULTIPLOT vXLNE** (2 Disks) Data plotting prog
E258 **MATHPLOT** Lin/log plotter
E259 **PLOTTER v3.90** 2 dim math plots
E311 **AMIGA TUTORIAL** Beginners will like this
E322 **AGRAPH** Pie charts & others
E334 **SACC TO SCHOOL** Kids puzzles, very good
E335 **FIREWORK ALPHABET** Learning aid demo
E336 **GRAMMAR** Correct your errors
E337 **WORLD GEOGRAPHY** Very useful
E338 **CHEMBALANCE** Chemical equations
E339 **MATCH WITH HUMPTY**
E340 **AMIGA WORLD** Info on every country on Earth
E341 **SINGALONG NURSERY RHYMES**
E342 **PICTURES & LETTERS**

CLASSICS

BOOKS ON A DISK
Helps with your English Literature revision!!
All disks run on A500/A500+/A600/A1200

Shakespeare Collection:

CL 1 MIDSUMMER NIGHTS DREAM; MACBETH; JULIUS CAESER; ANTHONY & CLEOPATRA.
CL 2 AS YOU LIKE IT; LOVERS COMPLAINT; CYMBELINE; HAMLET.
CL 3 ROMEO & JULIET; PASSIONATE PILGRIM; PHEONIX & TURTLE; SONNETS; CORIOLANUS.
CL 4 TWELTH NIGHT; VENUS & ADONIS; TROILUS & CRESSIDA; LOVES LABOUR LOST.
CL 5 TWO GENTLEMEN OF VERONA; A WINTERS TALE; RAPE OF LUCRECE; PERECLES.
CL 6 OTHELLO; MUCH A DO ABOUT NOTHING; MEASURE FOR MEASURE.
CL 7 HENRY VI PARTS 1,2 & 3.
CL 8 HENRY IV PARTS 1 & 2; HENRY V.
CL 9 RICHARD II; RICHARD III.
CL10 HENRY VIII; KING JOHN; KING LEAR.
CL11 THE TAMING OF THE SHREW; THE TEMPEST; TIMON OF ATHENS; TITUS ANDRONICUS.
CL12 ALLS WELL; COMEDY OF ERRORS; MERCHANT OF VENICE; MERRY WIVES OF WINDSOR.

CL13 WORKS OF MILTON 1; PARADISE LOST (2 disks)
CL14 WORKS OF MILTON 2; POEMS SONNETS ETC.
CL15 WORKS OF HOMER - THE ILLIAD(2 disks).
CL16 WORKS OF HOMER - THE ODYSSEY.
CL17 MARK TWAIN - TOM SAWYER.
CL18 MARK TWAIN - THE PRINCE & THE PAUPER.
CL19 LEWIS CARROLL - ALICE IN WONDERLAND; ALICE THROUGH THE LOOKING GLASS.

SUPERB QUALITY CLIPART

GU326 **ART ONE** (2 Disks) Weddings
GU327 **ART TWO** (2 Disks) Houses
GU328 **ART THREE** (3 Disks) Religious
GU329 **ART FOUR** WWII Aircraft
GU330 **ART FIVE** (2 Disks) Men
GU331 **ART SIX** (2 Disks) Women
GU332 **ART SEVEN** (2 Disks) Kids
GU333 **ART EIGHT** Business
GU334 **ART NINE** Office
GU335 **ART TEN** Students
GU336 **ART ELEVEN** Sale
GU337 **ART TWELVE** (3 Disks) Christmas
GU338 **ART THIRTEEN** (3 Disks) Punch
GU339 **ART FOURTEEN** Animals
GU340 **ART FIFTEEN** Cats
GU341 **ART SIXTEEN** Silhouettes
GU342 **ART SEVENTEEN** (2 Disks) Schools
GU343 **ART EIGHTEEN** Babies
GU344 **ART NINETEEN** (2 Disks) Sport
GU345 **ART TWENTY** Olympic
GU346 **ART TWENTY ONE** (2 Disks) Medical
GU347 **ART TWENTY TWO** Sea Life
GU348 **ART TWENTY THREE** Decorative Months
GU349 **ART TWENTY FOUR** Whacky (funny)
GU350 **ART TWENTY FIVE** Holidays
GU351 **ART TWENTY SIX** (2 Disks) Old banners
GU352 **ART TWENTY SEVEN** Art Nouveau flowers
GU353 **ART TWENTY EIGHT** Butterflies
GU354 **ART TWENTY NINE** (2 Disks) Food & kitchen
GU355 **ART THIRTY** Colouring book (DPaint)
GU356 **ART THIRTY ONE** Borders (DTP) 2 disks
GU357 **ART THIRTY TWO** (2 Disks) MAC clipart
GU358 **ART THIRTY THREE** Hornback (scenic)
GU359 **ART THIRTY FOUR** (2 Disks) Teddy Bears
GU360 **ART THIRTY FIVE** (2 Disks) Vanity Fair (fashion)
GU361 **ART THIRTY SIX** Halloween (weird)
GU364 **ART THIRTY SEVEN** Showtime (dancing etc)
GU365 **ART THIRTY EIGHT** Vegetarian
GU366 **ART THIRTY NINE** Floral (detailed)
GU367 **ART FORTY** Myths & Zodiac

VIDEO WORK

V 99 **CATALOGUE WORKSHOP 1**
V100 **CATALOGUE WORKSHOP 2**
V179 **VIDEO APPLICATION UTILS**
V180 **VIDI FONTS 1**
V220 **VIDEO GRAPHICS** (4 Disks)
V236 **CHEMNIMATE** Reaction anims
V345 **VIDEO WIPES**
V401 **INSCRIPT** Video titler
V402 **TELE TITLE 2** Video titler

VIRUS HELP

VH 44 **MASTER VIRUS KILLERS v2.0**
VH 93 **WARRIORS VIRUS KILLERS**
VH218 **NEW SUPERKILLERS v2.0**
VH235 **BOOTX v3.0ED**
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Making the most of your Hard Drive

Fitting a hard drive to your Amiga is one thing, making the most of it is another. Jeff Walker explains....

Beginners are often advised to think of a hard drive as being just one massive floppy disk. While this analogy certainly helps to abate the natural fear of something new, it can also serve to blinker your outlook. There is quite a lot of computing that is, quite simply, not practical from floppy disk, so if you think of a hard drive just as a big floppy disk you could be missing out on some very special software. This software usually gets pigeon-holed under the general heading of Hard Drive Utilities and it's easy to assume that this simply means partitioning and formatting software, back-up utilities and so on.

But there's much, much more. And it doesn't cost that much at all. In fact, every program I'm going to discuss is either freeware or shareware (or PD software if you prefer to call it that).

Unless I specifically say so, assume that you need at least Workbench 2.04 to run any of this software. If any of it is Workbench 3 only, I will say so. If you are still using Workbench 1.3 on your hard drive you should consider your position very seriously. Most current Amiga software, especially PD software, will not run under Workbench 1.3. or else it will be crippled in some way because it uses features of the later versions of the operating system. If you want to make the best use of your hard drive you need to upgrade your operating system.

FMSDISK

I'm going to start with a utility that might, at first glance, seem rather pointless. It's called *FMSDisk* and it enables one or more parts of your hard drive to act just like a floppy disk. It works with all versions of Workbench.

Having *FMSDisk* on your hard drive will enable you to duplicate a PD disk much more quickly than copying it from one floppy drive to another. If this disk is constantly being updated, it will be quicker, and much more convenient, to work with a 'virtual' floppy disk on your hard drive rather than with a real one.

One of the teething problems with moving from floppies to a hard drive is that many programs are supplied on disks that look in certain places on certain disks for certain files. But it can often be easier to Diskcopy entire distribution disks onto several FMS disks. (Up to 32 of them can be mounted at any one time.) Because FMS Disks are seen by the system just as if they were floppy disks sitting in floppy drives, anything the software is looking for on any particular disk will always be where it expects to find it.

FMS Disks work much more quickly than floppy disks, but nowhere near as fast as the hard drive actually works. However, if you are regularly having problems with programs not running from your hard drive because they haven't been properly installed, *FMSDisk* can be a great temporary solution until you learn more about how hard drives work and how to install software onto it by hand.

NEAT AND TIDY

Keeping your hard drive neat and tidy can be a slog. The bigger your hard drive, the bigger the the daily grind of keeping things in order. No matter how much you try, it seems impossible to prevent a hard drive from collecting duplicate files all over the place, particularly if you have several partitions.

Deleting these duplicate files is best done by hand because there is always the chance that despite two or more files having the same name, they might actually be different programs or data files. Best to check first. But searching for duplicate files using the command line or Workbench is a slow process. Best to leave it to the software to do that. That's what *GMan* does, which is short for *Garbage Man*. There's no icon to click on, so you have to use it from the command line, but it's a simple command which requires just a pathname as a parameter – something like 'GMAN Work:Docs' for example. Any duplicate files it finds in the specified path will be listed in the Shell window. If you want a permanent record, you can always use redirection – 'GMAN >PRT: Work:Docs' for example, which would redirect output to the printer device, thus giving you a hard copy of the gory details.

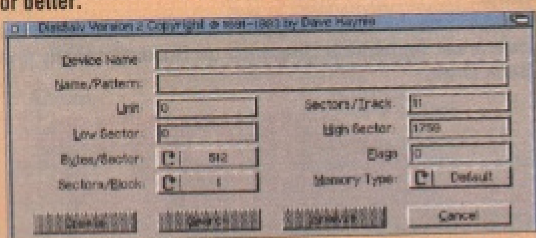
To investigate and delete the duplicates there is no better tool than a directory manager. This type of program can be thought of as a command line that has a graphical user interface, which is a contradiction in terms but is the best description I can think of. They normally give you at least two windows which list the contents of directories. You can click on the names in the list by using the

For those times when you accidentally delete an important file, *DiskSalv 2* will allow to search any device for one deleted file, all deleted files, or you can use wildcards to suit.

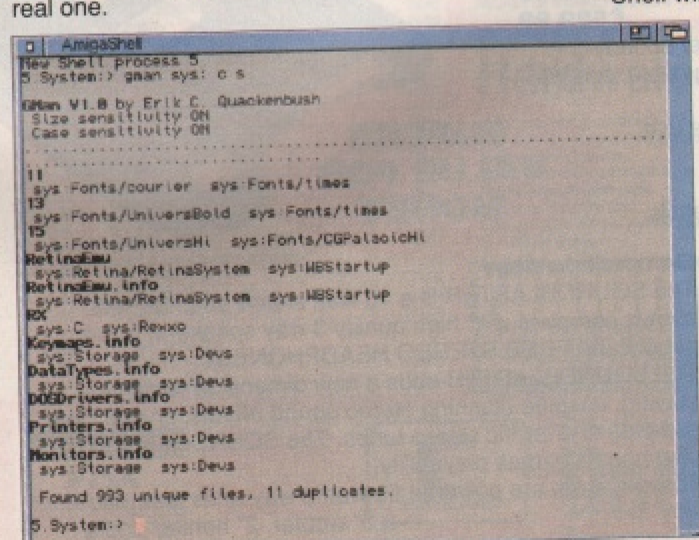
DISK-FIXING

If you have accidentally deleted a file and if you've got the dreaded 'Not a DOS disk' or the blood-draining 'Disk is not validated' requestor, or even a simple read/write error, the program you need is *DiskSalv*, by Dave Haynie.

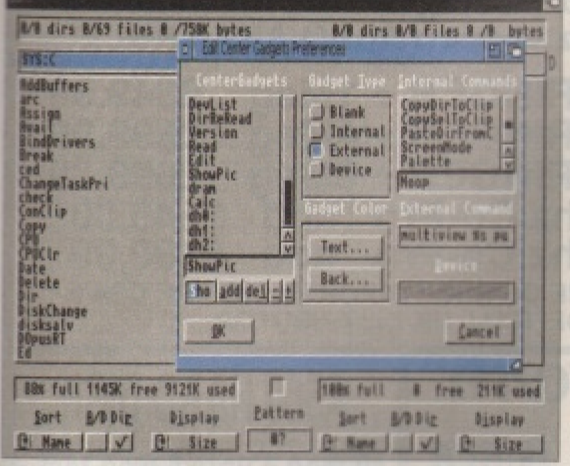
Version 1.42 of *DiskSalv* has been around for years. Operated from the command line with more parameters and options than you can shake a smelly sausage at, it was never a popular program because it appeared that you had to have the brain the size of a planet in order to read the documentation let alone use it. Damn powerful, but every time you run it you can hear the echo of a million heads scratching. Version 2 has been re-written from scratch and features a tidy and understandable user-interface. Like all the best modern Amiga software, it requires Workbench 2 or better.



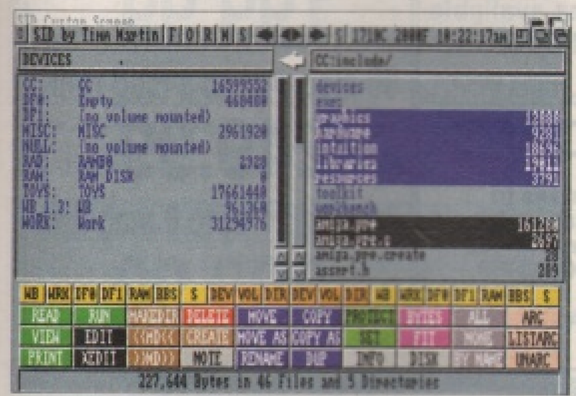
DiskSalv 2 is so powerful that you can even specify custom file systems in order to salvage the contents of non-standard Amiga disks .



Garbage Man has switches so that case sensitivity and exact file sizes can be taken into account when searching a hard drive for duplicate files.



The beauty of DirWork is that it is small and fairly simple to set up.



Rush is a new directory manager that has more features than you can shake a smelly sausage at.

SID 2 was the first directory manager to spruce up its appearance and many people still swear by it.

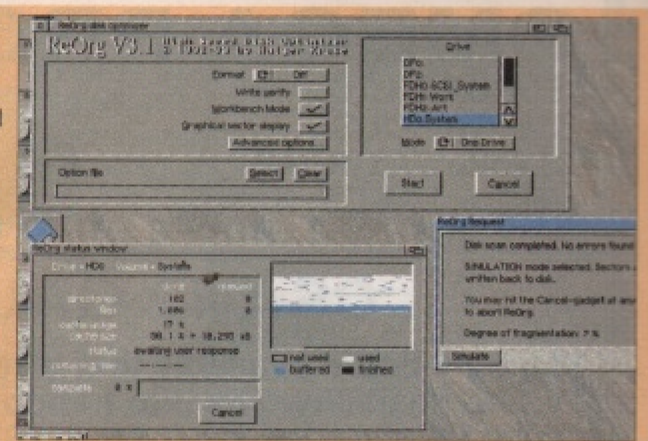
mouse and by hitting one of a collection of buttons you can perform actions on the selected files.

Because it is so small and fairly easy to set-up, *DirWork* is probably the most popular shareware directory manager (although the aging *SID* is also still widely used, particularly by those who have stuck with Workbench 1.3). The up-and-coming star of the show, though, is – for some strange reason – called Rush. In many ways it is superior to the commercial competition (*Opus* and *Diskmaster*), it even supports many of the new Workbench 3 features. Although the freeware demo version does not allow you to save the set-up – so it is 'crippleware' as the genre has become known – it is still perfectly usable and will give you an idea of what a good directory manager should be like. The full version will cost you a trip to the bank and a small shareware fee in US dollars.

THE HARD DISK SHUFFLE

The more you delete and save data to your hard drive, the more the data on the hard drive gets fragmented. Large files end up on blocks scattered all over the hard drive instead of occupying lots of adjacent blocks. Fragmented files mean longer loading and saving times and an amount of 'disk thrashing' as the read/write heads whack backwards and forwards trying to load (or save) the file as quickly as possible.

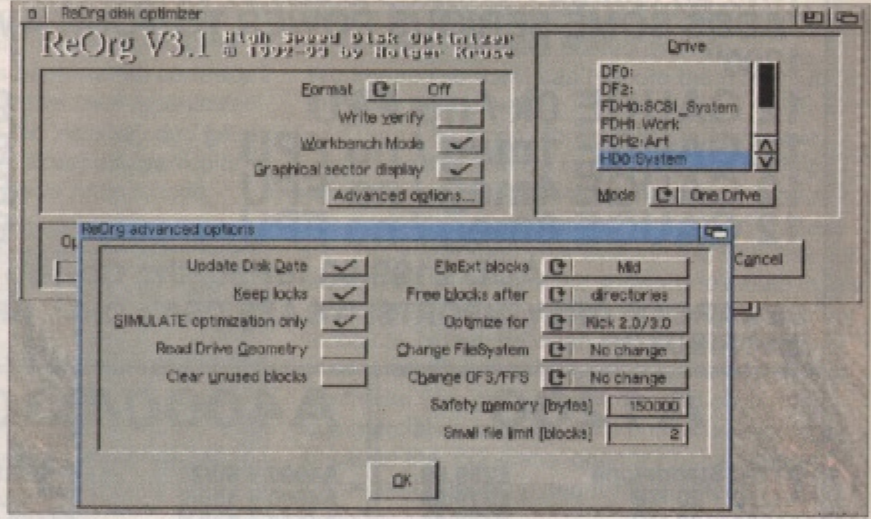
A disk re-organiser like *ReOrg* can read the contents of your hard drive, work out the best way to re-save the files so that large files are saved in adjacent blocks and icon files are in an optimum position for fastest displaying. It takes time, it consumes memory– the bigger the partition, the longer it will take and the more memory required – but if you hard drive has become badly fragmented, ReOrg can speed up your hard drive and cut down on wear and tear.



If you want to quickly check how fragmented any partition is, *ReOrg* has a simulation mode that ensures that the contents of the hard drive are not altered in any way.

SAFETY FIRST

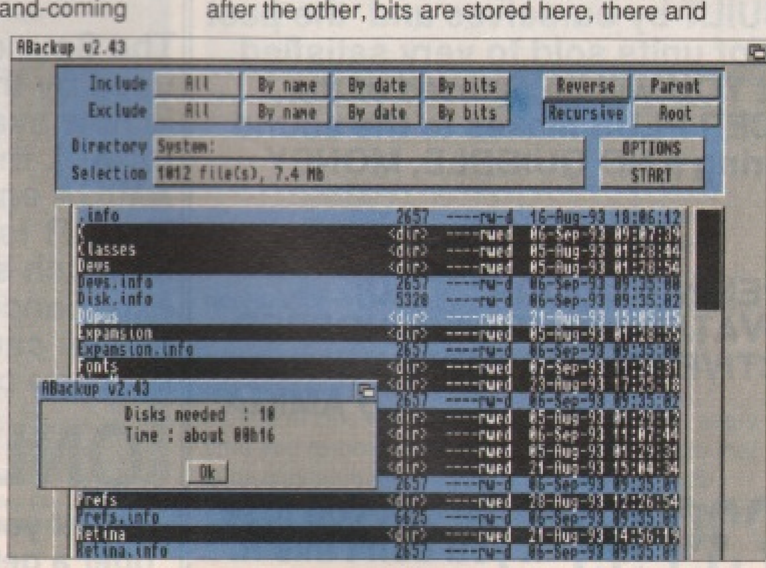
Keeping the data on your hard drive safe is obviously important. No matter how careful you are, at some point your hard drive is going to 'go down', which could result in the total loss of all the files on your hard drive. Back-ups are the answer, and while they might be tedious to make, you have no right to complain about losing files if you have not made back-ups.



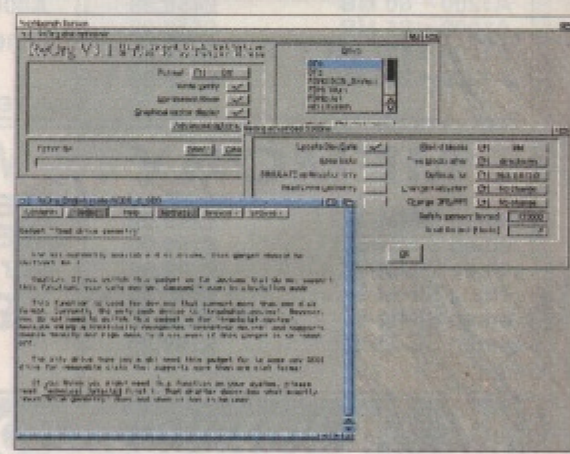
Two PD programs that do the job adequately are: *ABackup* and *BackUP*. Both are every bit as trustworthy as commercial offerings – the words Maxwell and Robert come immediately to mind. Bad back-ups that refuse to restore are almost always due to poor-quality floppies. That's why it's always best to make two or three back-ups, just in case. Although neither *ABackup* or *BackUP* is what you would call fully-featured, for backing up to floppies there's no need to spend more.

If your hard drive does go down, re-formatting it and restoring a back-up isn't your only option, there are tools which may be able to 'fix' the problem. *DiskSalv 2* is the PD king of this castle, and is a superb piece of software that no hard drive user should be without.

Another must-have is *ReOrg*. Because hard drives are so big and because you are continually saving and deleting files, data tends to get spread all over the disk. Large files often get fragmented – instead of the whole file being stored in blocks one after the other, bits are stored here, there and everywhere. This doesn't stop them from running properly, the operating system handles fragmented files perfectly well, but if it has to look all over the drive in order to load a file, it will take longer to load than a file of the same size that has been stored in adjacent blocks. *ReOrg* reorganises or optimises the files on your hard drive so that they can be loaded as quickly as possible.



Many people prefer ABackup to BackUP because it has the Workbench 3D look and feel to it.



The Advanced Options panel is for the techie-heads among us, but the neat on-line help via *AmigaGuide* means that an explanation is literally one keypress away.

The latest version (3.1) is another superb piece of shareware that equals anything that is commercially available.

There are various PD programs that are not specifically hard drive programs but are much more usable from hard drives. Workbench 3 users will know about datatypes; those wonderful little programs that enable the single MultiView utility to sing, dance and make the tea.

A datatype is provided for standard Amiga ILBM pictures, but many users want to view GIF, PCX and JPEG pictures. PD datatypes for all three are available.

Talking of datatypes, something Workbench 3 users have that Workbench 2 users don't have, is »

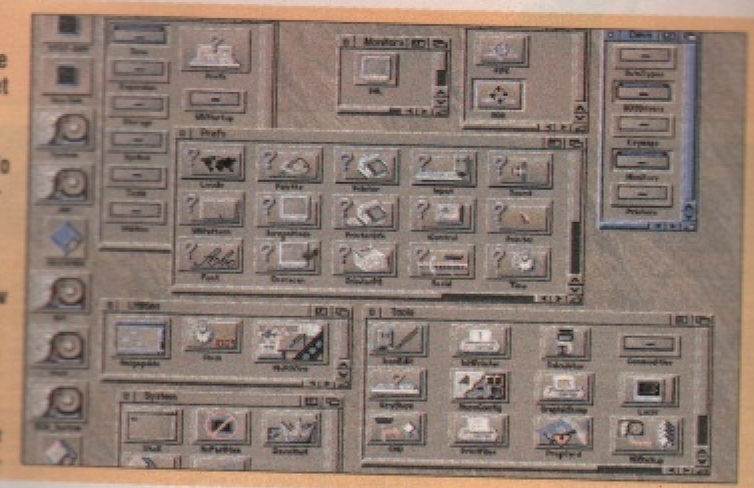
PRETTY AS A PICTURE

Versions 2 and 3 of Workbench are much prettier to look at than Workbench 1.3, but there's much that can be done to make them even prettier. Icons are the secret weapon, but most of us can't draw the dole properly let alone nifty 8-colour icons. So it's amazing that it has taken so long for something like MagicWB to come along.

MagicWB isn't a program, it's a collection of replacement icons and backdrops for Workbench 2 and 3. To use the backdrops Workbench 2 users will have to run the extra NickPrefs program as ILBM pictures as backdrops was one of the new features of Workbench 3. NickPrefs fools the Workbench 2 system into allowing backdrops.

An automatic installation program is supplied that will replace all the 'system' icons (those that come as standard with Workbench), plus you can inform it to replace all the drawer icons on any partition with the new ones. To look as good as it does, MagicWB requires you to change to an 8-colour Workbench. There are dozens upon dozens of backdrops to choose from, although the default marble pattern is arguably the best. A set of new fonts are installed and automatically selected.

The result is a Workbench that you could hang on your wall.



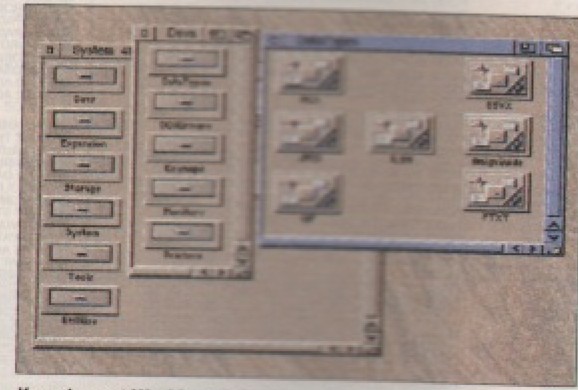
Magic Workbench in all its glory. Looks best on a High Res Laced screen, but 1084 users will also benefit.

AmigaGuide was a long time in coming, and software is not properly dressed these days unless it comes with an *AmigaGuide* document linked to the Help button.

How much easier to click on entries in an index like this than to struggle through page after page of cross-referenced fine print. Thank you, *AmigaGuide*.

» support for AmigaGuide documents. All the top shareware programs, and many commercial ones, are now providing documentation in this format.

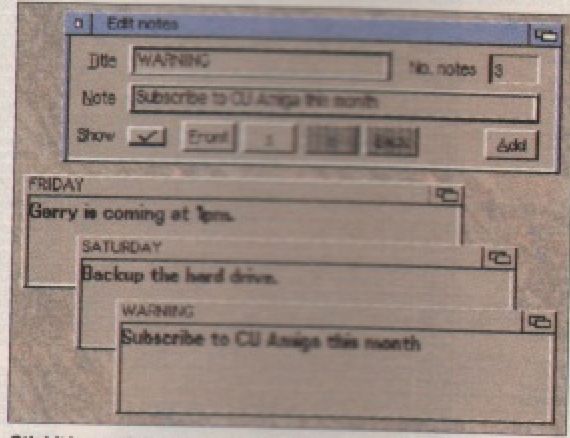
The beauty of the system is that, provided the *AmigaGuide* document has been written correctly, you can move the mouse pointer over a particular button or menu item, press the Help key and get a page or more of on-line help about this particular function. Commodore has made *AmigaGuide*



If you've got Workbench 3 and need to view PCX, GIF or JPEG files, get hold of these three PD datatypes.

freely distributable. It's in the Fish collection. Go out there and get it. It works with Workbench 1.3 as well as Workbench 2.

One program I find invaluable is *StickIt*. I am always forgetting things. Sure, I write myself notes

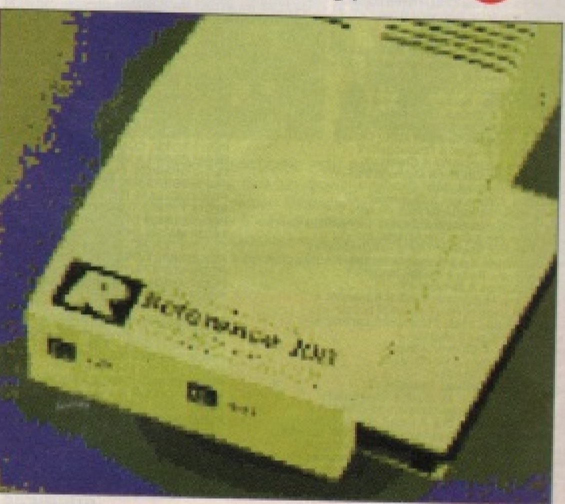


StickIt is a quick and simple way to ensure that important dates are not forgotten.

and 'post' them on my wall or on the side of my monitor, but they either fall off or get forgotten because they are not directly under my nose.

StickIt is a computerised equivalent of Post-It notes. With a brilliantly-simple user interface you merely drop the *StickIt* icon in the WBStartup drawer and then any notes you have written, using *StickIt*'s minimal set-up panel, are displayed in little windows on your Workbench every time you re-boot. You can write the message that is displayed in the window's title bar (up to 29 characters) and you have up to 255 characters for the message itself. Shame there's no timer option so that a particular message can be hidden until a certain day or time, but it's saved my bacon quite a few times nevertheless. I make sure I put any notes in obtrusive positions on the Workbench so that I can't ignore them like I do the ones on the wall.

There's so much more of this stuff available, I wish I had more space to tell you them. Perhaps I can convince the editor to let me write a sequel. In the meantime, stop treating your hard drive like a big floppy and keep your eyes on the Fish disk collection. While much of the software released in this collection is certainly extremely specific and rather technical, hidden between the files that make you yawn are others that hard drive users in particular can make very good use of, the kind of stuff that commercial developers don't bother developing because the 'PD scene' does a much better and faster job of updating and fixing problems. CU



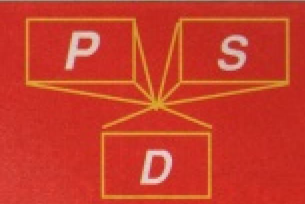


WHERE TO GET IT

Most of the software discussed in this article is in the Fish Disk collection and will be available from most PD libraries. If you are having trouble locating anything, George Thompson Services (0582 462486) has it all and charges £3.50 per disk.

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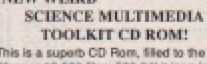


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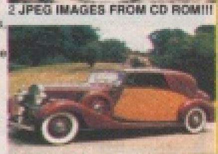






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... Montana - New York, hires maps! +Y
... Neutral Zone - Iraq - S Dakota! +Y
... Senegal - Tuuaw, autoboots! +Y
... Texas - Zimbabwe, autoboots! +Y
...S, good pictures, autoboots! +Y
...RS, famous faces, autoboots! +Y(2)
...AFT, 1-26, assorted, autoboots! +Y
...AFT, 27-32 & Cars! autoboots! +Y
... 1-12 Super pictures, autoboots! +Y
... 13-29 More avian pictures! +Y
... 30-41 Lots more birds,autoboots! +Y
... Many more bird pics, autoboots! +Y
... And some more fab pictures! +Y
... 116-130 Some good pictures! +Y
... 131-138 More bird pictures! +Y
... More superb pictures here! +Y
... 1-16 Super cat pics,autoboots! +Y
...OGS, 1-126 Super dog pics,8 disks! +Y
...ORERS 1-13 famous explorers,autoboots+y
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...ERS 1-13 Flower pictures,autoboots!+y
...ERS 14-25 More flower pics,autoboots!+y
...ERS 26-37 More flower pics,autoboots!+y
...ERS 38-50 More flower pics,workbench+y
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CCL051 FLOWERS 128-138, FRUIT 1-4 pics autoboots+y
CCL052 FRUIT 5-18, Good pictures! autoboots! +Y
CCL054 FRUIT, More fruit & leaves etc!,autoboots+Y
CCL055 FRONTIER 1-13 Pioneer pictures,autoboots
CCL056 HORSES 1-16 Great horse pics,autoboots! +Y
CCL057 HORSES 17-22, Insects 1-9, autoboots! +Y
CCL058 INSECTS 11-23 Small creatures! +Y
CCL059 INSECTS 24-41 More pics! autoboots! +Y
CCL060 INSECTS 42-59 More insects! autoboots! +Y
CCL061 INSECTS 60-63, Inventors 1-11 autoboots! +Y
CCL062 INVENTORS 12-24 More inventors autoboots! +Y
CCL063 INVENTORS 25-30, MAMMALS 1-10! autoboots! +Y
CCL064 MAMMALS 11-26 More animals pictures! +Y
CCL065 MAMMALS 27-46 and more animals! +Y
CCL066 MAMMALS 45-65 more mammals,autoboots! +Y
CCL067 MAMMALS 66-82 and some more! autoboots! +Y
CCL068 MAMMALS 83-102 and many more autoboots+Y
CCL069 MAMMALS 103-119 many more! autoboots! +Y
CCL070 MAMMALS 121-141 superb pictures! autoboots +Y
CCL071 MAMMALS 142-158, & INSTRUMENTS 1-4! +Y
CCL072 INSTRUMENTS 4-25 Musical! autoboots +Y
CCL073 INSTRUMENTS 26-36, MILITARY 1-6 autoboots +Y
CCL074 MILITARY 7-17,& MUSICIANS 1-4! +Y
CCL075 MUSICIANS 9 -21 Classical! autoboots! +Y
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CCL077 PREHISTORIC 20-25, PEOPLE 1-8 autoboots! +Y
CCL078/80 PEOPLE 9-50 Lots of people! (3 disks)+Y
CCL081 PEOPLE & Presidents, good pictures! +Y
CCL082/4 PRESIDENTS 1-40 USA presidents,3 disks +Y
CCL085 REPTILES 1-19 Good pictures autoboots! +Y
CCL086 REPTILES 19-38 More reptiles! autoboots! +Y
CCL087 REPTILES 39-50, Ships 1-9,autoboots! +Y
CCL088 SHIPS 10-33 Marine vessels! +Y
CCL089 SPORTSMEN. Various sportsmen,autoboots! +Y
CCL091 TREES, Lots of tree pictures! autoboots! +Y
CCL092 TREES, Lots more tree pics! autoboots! +Y
CCL093 TREES, And some more trees! +Y
CCL094 TREES 57-70 trees lots of tress,autoboots!+y
CCL095 TREES 71-84 more tree pictures, autoboots!+y
CCL096 TREES 85-100 even more trees,workbench!+y
CCL097/100 VEGETABLES 1-48 good pics 4 disks,workbench+y







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BG014 EMERALD MINES 14
BG015 EMERALD MINES 15
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BG018 NO ONE MINES 03
BG020 NO ONE MINES 05
BG021 NO ONE MINES 06
BG022 NO ONE MINES 07
BG023 NO ONE MINES 08
BG024 NO ONE MINES 09
BG025 NO ONE MINES 10
BG026 NO ONE MINES 11
BG027 NO ONE MINES 12
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CD AMIGA

ON SALE



Rumbelows have given the CD32 equal billing with their other consoles. Thanks to David Iglesias and Andre Fu at Rubelows Islington for their help.

As the CD32 has been on sale for a little while now, we contacted the major retailers for their opinions on how well it's been received by the public at large. Most major chains have already taken the machine into stock. One notable exception is the Dixons group who have not yet made a firm decision. Cold feet, perhaps?

Those companies that have jumped onto the bandwagon are unsurprisingly enthusiastic about the CD32's selling potential. Don Carter, Chairman of ZCL (who manage Indi Direct Mail and the Calculus stores), is particularly vocal. 'The first shipment we received didn't have time to collect dust. Over 1000 units were despatched via direct mail orders or to our retail outlets. The second shipment behaved in almost exactly the same way. These may sound like good figures but they're merely the diehard Commodore fans purchasing another Amiga. When Commodore's marketing campaign comes on line, then we'll really see the sales beginning to flow.'

Silica's Andy Leaning is also quite forthright. 'Commodore don't actually need to sell that many CD32s to make a profit. It's not the same with the MegaCD which must sell vast quantities to do well. In those terms I think the CD32 will out perform the MegaCD. It still needs some spectacular software though.'


In the first week and a half that the CD32s were on sale, Silica's Tottenham Court Road shop had sold 15 machines.

The chain stores too are gushing in their enthusiam for the CD32. Andrew Allan, Games Product Manager for the Comet Group, is very excited: 'We've taken the CD32 into all of our stores and given it a prominent display. Compared to the Mega CD, initial sales have been tremendous – the combination of price point and improved specifications has given it a great boost.'

Rumbelows, too, are behind the machine all the way having already promised it prominent window displays in their stores up and down the country. Their Press Office stated that, 'The CD32 is an exciting new development and the initial sales have been very encouraging. Short term promotional plans involving software deals are planned to add value to the product in the near future.'

Despite all these vocal praises every retail outlet I visited had not really made much of displaying the hardware. No one had a decent demo running, even of the two games supplied. One shop had their CD32 half hidden by a huge post which was, in turn, behind their sales counter – making sure no one could get near it. When a CD32, with blank screen, is stuck next to a Megadrive demoing the latest colourful blaster, how can they expect sales to flourish?

So what about the horse's mouth, or Commodore as they are better known? I asked David Pleasance, their Joint Managing Director, about the quantities of units they are shipping. Unfortunately, he was unavailable for comment despite over a week of phone calls from myself. Oh well.

It's still going to take some time before anyone can really confirm how well the machine is selling. Perhaps the true test will come when there are a few more software titles available – until that time general games consumers, as opposed to Commodore diehards, are not going to show much interest.

Jon Sloan

NEWS

OUT TOO EARLY?

Beware of buying the CD32 too early. That's CU's message to Joe Public as news comes to light that the free software bundled with the early batch – namely Flair's *Oscar* (reviewed overleaf) isn't the enhanced CD32 version! Due to the machine being released a little earlier than planned, two versions of *Oscar* are being sold with the machine. The enhanced version has two brand new levels, bringing the total to nine, along with MIDI sound. What some owners might find themselves with is the standard A1200 version, with only seven levels.

Naturally, you would assume that Commodore will be offering some sort of upgrade service for those loyal folk who have found themselves with a disc that doesn't really show off the CD capabilities of the machine. However, when questioned on this point a spokesperson from Commodore's PR company said, 'At the moment I don't know, but I wouldn't think so.' Is that what's known as good customer service, or is it just a rush job?

ANOTHER DAY IN THE PARK

Bullfrog, those purveyors of top software such as *Populous* and the wonderfully-destructive *Syndicate*, are currently piecing together the final, erm, pieces of their brand new CD32 title, *Theme Park*. Looking like a cross between *Populous, Sim City*



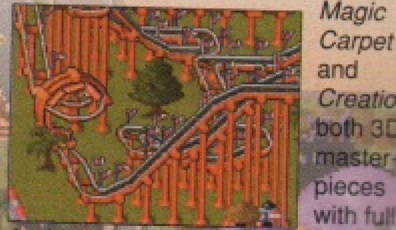
and *Noddy At The Fair*, the game will put you in the role of a millionaire with a penchant for the fair. 'I always wanted to write a business game simulation,' said Peter Molyneux, Bullfrog's MD. 'The problem is that business games are normally very boring, the kind of game that guys in pinstripe suits would play. I thought, how would you have a business game that's fun to play, and I came up with a game where you have to build a theme park from scratch, which people then come and use, and finally judge. You start with an empty field, which you have to turn into an exciting theme park.'

The game has been in production for 12 months, with a team of eight people working around the clock to



bring *Theme Park* to the high standard we've come to expect from the Powermonger people. 'In terms of complexity, its more than any game I'm done. There are 48 different rides you can position in your park, all of which can be redesigned and tailored, giving you an infinite number of variations. To demonstrate how complex the game is, let's say you position a hamburger shop next to a roller coaster. What would happen in real life? People would buy a hamburger, and then throw up after coming off the ride. So you need to learn where to position your shops.'

Theme Park will be ready for release around March of next year, and it sure sounds like it's going to be good. Two other titles currently under evaluation by Bullfrog are



Magic Carpet and *Creation*, both 3D master-pieces with full texture mapping. At the moment the team are seeing how fast the game will run after optimisation, and if they don't come up to scratch, they won't appear, so don't hold your breath.

»

Trolls was a surpise smash. Now Flair are looking to repeat that success with the CD32 flagship game. Tony Dillon was less than impressed.



I really enjoyed *Trolls*.The colourful and playable romp through a selection of fast paced, maze-like levels made this platform adventure a winner in my book, as well as everyone elses. That's probably why Flair have spent the recent months developing *Oscar* in a similar vein to *Trolls*. However, if the game looks a little similar to *Trolls*, that's only because it is, in essence, the same game, with just some different graphics and a couple more bells and whistles added.



Oscar's shoes can be lethal on the wrong feet.

BIG DIFFERENCE

The CD32 version of Oscar has nine levels, along with some superb MIDI sound and enhanced effects, or so we are told by Flair. The version we have reviewed here has only seven levels and the standard A1200 sound. Are we cheating you? I think not, as we actually reviewed the version of the game that came boxed with our CD32. It seems that in an effort to get the machine out early, Commodore haven't waited for the full CD32 version, shipping the first batch of machines with the normal Amiga version (see news story). I don't know about you, but having bought the machine, I would be extremely annoyed to discover that none of the console's new features have been implemented on the bundled software, and would certainly expect Commodore to replace my CD. Apparently, there are no plans to do this. I leave you to draw your own conclusions.

FIND MYSELF

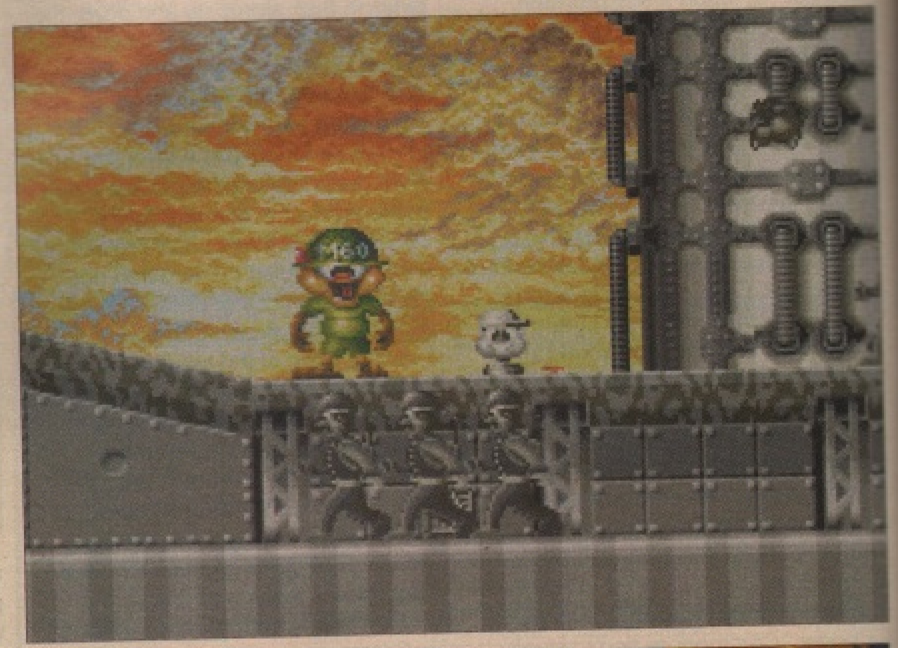
As far as the plot is concerned, there isn't much there to write home about. *Oscar* has had all his Oscars stolen (the small golden statues) and scattered about the sets of a collection of films, seven or nine depending on the version you've got. Each film set contains all the nasties and enemies you would expect to see, such as the aliens from Alien in 'Sci Fi Encounters', albeit with bright red noses and comical expressions, or amusing stereotyped policemen parading their beat in 'Cartoon Capers'. Possibly the most visually recognisable level is 'War Games', as the entire thing is in black and white!

Oscar's nicest graphic twist is the underwater segments. Some levels are flooded to a certain point and, when you are above the water line, all you can see is the level reflected on the surface of the lake. Not much new there, but as soon as you dive below the surface, the palette changes and a whole new world is revealed. Of course, the controls change as *Oscar* starts to swim, but that's only to be expected.

GO YO YO!

The one biggest throwback from the days of *Trolls* is the inclusion of the Yo-yo. Most platform games, you normally kill the enemy sprites by leaping on their heads (a horribly outdated way of doing things, and one part of the whole platform genre that really needs something fresh). Some games even let you collect guns and what not. *Oscar*, on the other hand, lets you collect a small ball on a string. But this is no ordinary ball. Not only can it knock out enemy sprites at five paces (albeit after three hits), it can also be used as a swing! Leaping into the air and then firing it at a nearby platform will occasionally cause it to attach to the underside of the said object, leaving to to swoop by yelling in a Tarzan fashion.

But the proof in any game is in the playing, and this is really where *Oscar* falls on its face. First off, if you want to play it with the joypad – forget it! You will need to use a lot of diagonals for





It's the *Jurassic Park* bandwagon level, with dinos a-plenty!



With a bounce in his step, *Oscar* leaps over the waterfall. Terry The T-Shirted T-Rex looks on.

jumping across gaps, and the joypad supplied with the machine just isn't all that hot when it comes to diagonals. I would have liked to have seen one of the buttons used as a jump control, but these things are always easyto say with hindsight!



As with Trolls, the elephants act as save points. They never forget, you know?

So, using your favourite joystick, what do you find. A very sluggish game, that's what. *Oscar* is trying to be a fast paced action platformer, but fails miserably due to the abysmally slow controls. Sure, you can belt all over the screen, but just try to time a jump when you're running at full speed!

As I've already said, it's a very colourful game. Generally there are over one hundred colours on screen at any one time, with the main sprite taking 32 colours, the panel at the bottom of the screen taking another 32, a sixteen colour backdrop, a sixteen colour foreground and over 40 more making up the copperlist in the back. It might sound very nice, but it causes horrendous problems.

Take a look at any screenshots on this page, and see how easy it is to make out platforms and enemy sprites. It isn't. Everything looks very complicated, and even more so when everything is moving. Why do graphic artists feel that they need to use so many colours? It does nothing more than make the game harder to play. I got extremely fed up repeatedly walking into things that I just couldn't see.

Oscar has all the makings of an excellent platform game, but it seems that Flair have tried too hard in all the wrong places. Not the best entry point to the world of CD32 games! CU

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RELEASE DATE:	OUT NOW
GENRE:	PLATFORM
CONTROLS:	JOYPAD, JOYSTICK
NUMBER OF PLAYERS:	1

GRAPHICS	61%
SOUND	78%
LASTABILITY	72%
PLAYABILITY	65%

"The game that should have been so much more. Disappointing platformer."

OVERALL 64%

DIGGERS

MILLENNIUM £29.99



Yes, we did review this inour recent CD but we thought that we'd give it another showing now that's it's being bundled with the CD32.

If you don't already know, or haven't read the highly over-rated reviews in certain other magazines, *Diggers* is Toby Simpson's attempt at blending a *Lemmings*-style control method and a *Boulderdash* -style rock game, with a thick helping of creamy delicious wargame strategy. It didn't work for John Mather, and to be honest, it doesn't really work for me.

You control a team of five diggers as they explore the barren wastelands of Zarg, a planet rich in minerals and gems (at least, below the surface). Using a pop-up icon panel, you have to send each digger down into the ground, collecting gems to a prestated value, while trying to avoid enemy diggers and all the usual ghosts and ghoulies you find under the soil.

Each digger has a limited armoury of actions (walk in a direction, run in a direction or dig in a direction) and these have to be utilised to get you to gem hoards as quickly as possible. As you make money, you're able to buy all sorts of gadgets to make your life easier, but that doesn't help you in the beginning.

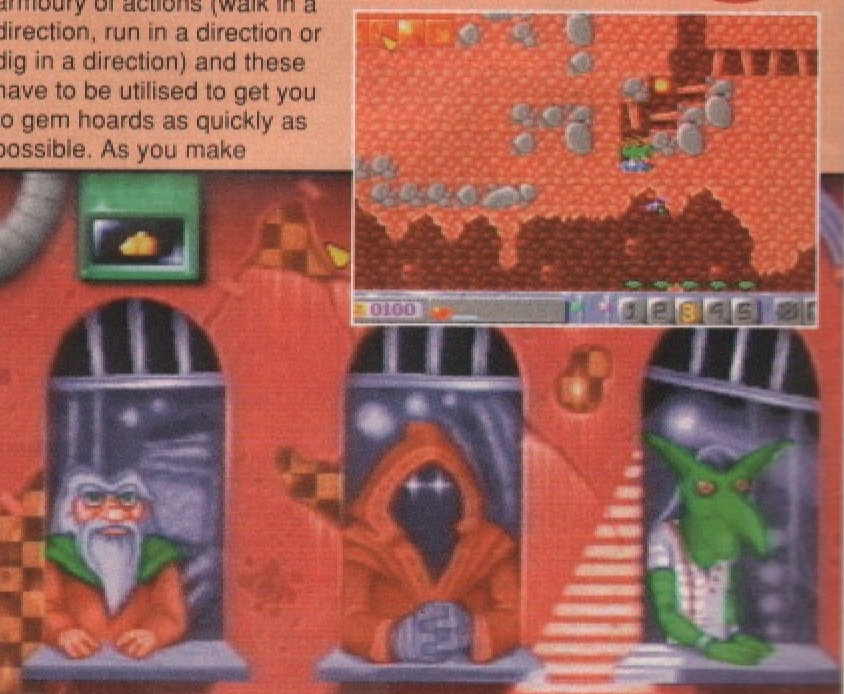
There are quite a few things I don't like about this game. For a start, the controls are very sluggish, and in a lot of places the diggers' responses are illogical and unpredictable.

Telling a digger to dig down and to the right doesn't always mean that he'll dig where he is. He might walk to the left a couple of screens before he starts digging, or he might not dig at all, regardless of what's below him. You can't scroll about the map, so you have no way of telling where the digger is heading, and the size of the icons makes the control fiddly at the times when you need to move instantly.

Sure, it uses the CD sound well, and there are some very nice intro and outro screens, but on the whole it's a game that just looks like a rush job. CU

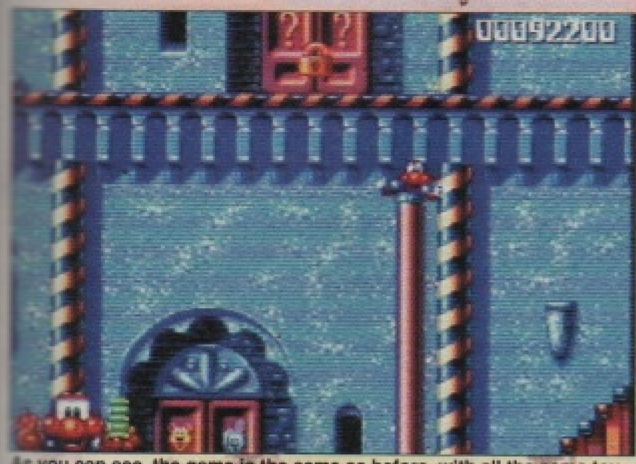
Tony Dillon

65%



JAMES POND 2 – ROBOCOD

MILLENNIUM £29.99 OUT NOW



As you can see, the game is the same as before, with all the same toy trains and playing card birds.

They've milked it and milked it. It's been on every single format ever released, and the padded foam costume has seen more often than the *Jurassic Park* trailer. Thankfully, all these things can be forgiven as *Robocod* is still one of the best platform games ever written. With that in mind, it comes as no surprise that the second tale of F.I.5.H.'s highest paid agent is one of the first CD32 titles, and like every other version that has appeared, it's an absolute stormer!

You shouldn't need any introduction to this *Super Mario*-style platformer, so I won't give you one. All you need to know is that it was incredibly playable and addictive when it first arrived on the scene, and now it's even better. It has eight new levels with far more on-screen colours. As you would expect, the CD version is simply the AGA version with a few more bells and whistles.

Firstly, of course, the sound has been upgraded somewhat, with seven full tracks of digital audio music playing through the game alongside the now familiar spot effects. Also, a full online book has been included, giving you a full history of F.I.5.H. and all its agents. This book is interesting for a few minutes, but not absolutely necessary. What impressed me most, however, were the few minutes of full-screen cartoon animation at the start of the game. Each frame has been hand drawn and then scanned into an art package. The end result is a little grainy, looking somewhere between *Danger Mouse* and an early *Mickey Mouse* flick, but is impressive none the less.

When all is said and done, though, the game is much the same. To my mind, *Robocod* will always been one of the finest Amiga platform titles, and is most definitely something that should sit on every CD32 owner's CD rack.

84%



Above: Just one of the frames from the excellent cartoon intro sequence.

If you fancy reading up on our hero before you take the plunge, there's this full on-line history book!

ADMIRAL HALF NELSON
Founder of F.I.5.H.

History: Ex-wrestler who wears an eye-patch and pins his sleeve to his jacket. He is in fact perfectly healthy. He swaps his patch from one eye to another and produces his right arm in times of danger.

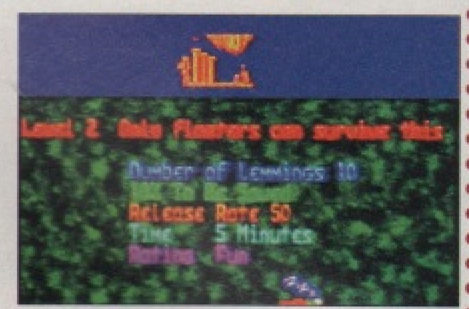
LEMMINGS

PSYGNOSIS £29.99 OUT NOW

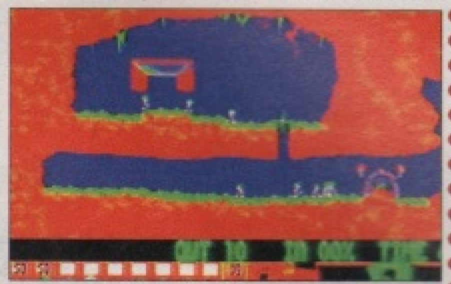
What computer format could ever hope to be complete without a version of *Lemmings*. The idea behind the game is so simple that it's surprising that no-one beat Psygnosis to it. You need to guide your little green-haired *Lemmings* through a series of 100 caverns strewn with dangers and obstacles. Each of your *Lemmings* can be made to perform simple tasks, such as digging or climbing, and it's by manipul- ating these talents that you get your little buddies through the level.

It's addictive. It's frustrating in places, maddening in others but always fun. As playable as any other version, bar the fact that the joypad could never be as responsive as the original mouse control, *Lemmings* is a must buy. However, Don't rush out looking for the CD32 version of *Lemmings* – it doesn't exist. This is the CDTV version which runs perfectly on the CD32. Worth getting your mitts on.

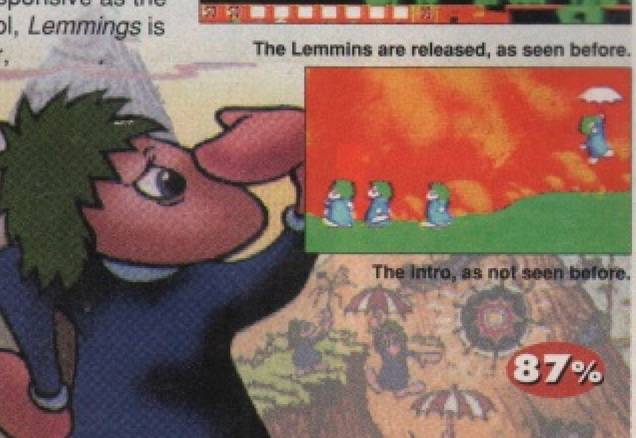
87%



The level description, as seen before.



The Lemmins are released, as seen before.



The Intro, as not seen before.

DODGY DISC CORNER

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Dear oh dear. I thought this kind of thing was exclusive to CDS! Obviously not, as Storm's *Covergirl Strip Poker* makes its way onto the CD32, via the compatible CDTV version. Eight 'stunning young lovelies' await you in a variety of 'erotic' locales, ready to take you on at five card stud. Not for money, though. In this game you bet points and for every 2,000 points your opponent goes 'overdrawn', the 'stunna' of your choice will remove an item of clothing. When this happens, it's time to enter the mini cinema and watch the action on a small, black and white screen.

Very badly digitised colour images mixed with some very roughly animated black and white footage make this game look even tackier than it sounds. As a poker game it offers no challenge at all. If you're really unlucky, you might lose a hand or two, but otherwise there's nothing stopping you from completing the game in half an hour. A sad game, made even sadder by the fact that you could probably buy a couple of porno videos for the same price!

13%



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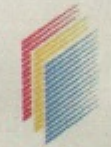
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Power Computing's latest 32-bit memory expansion for the Amiga 1200 is now available. The PC1208 combines exceptional value with incredible features. The original PC1204 4MB 32-bit memory expansion is still available, and is exceptional value.

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"Consider it to be as important as your power cable" (CU Amiga, Nov 92)

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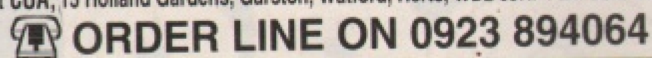
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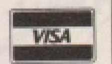
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AMIGA GUIDE

THE COMPLETE GUIDE TO THE AMIGA

PART SEVEN — NOVEMBER 1993

PUBLIC DOMAIN *SPECIAL*

SAVE A FORTUNE ON SOFTWARE



DEMOS



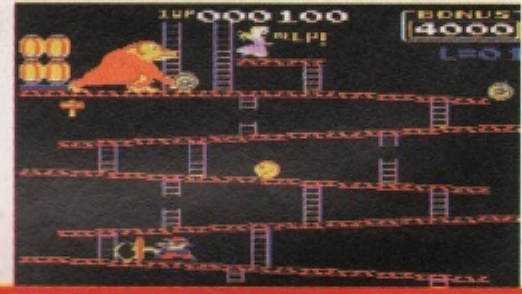
ANIMATIONS

INSIDE!

A WEALTH OF TOP PROGRAMS AT GIVEAWAY PRICES



MUSIC



GAMES

PLUS!

MAKE YOUR OWN DEMOS – EVERYTHING YOU NEED TO KNOW TO GET YOU STARTED

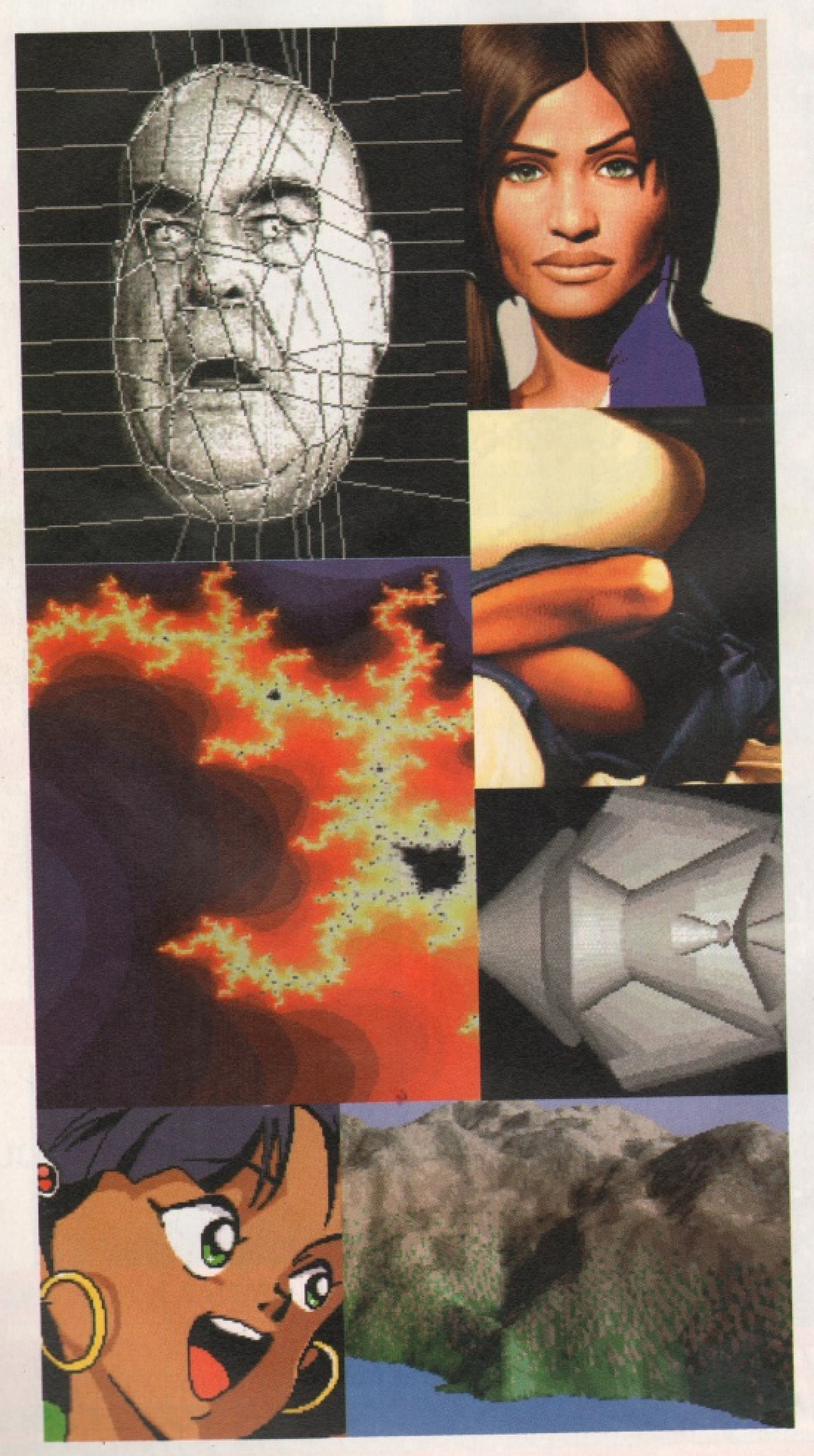


GRAPHICS

FREE WITH CU AMIGA

OVER 100 PD PROGRAMS REVIEWED INSIDE!!

PD SPECIAL intro



The public domain is indeed a wonderful place. Where else could you get your hands on top-notch software covering every imaginable use of the Amiga, for just the price of a disk and a stamp?

This is your guide to all the best the public domain has to offer, and it could actually save you thousands of pounds. Whether you're into games, demos, graphics, music, video, programming or whatever, you'll find plenty of essential additions to your software library, and your wallet won't even notice the difference!

WHAT IS PD?

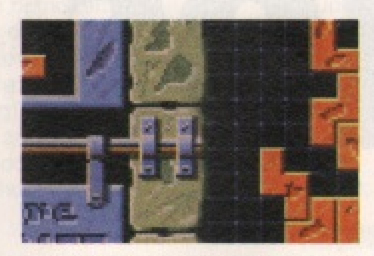
Public domain software (PD) is a strange concept in today's money-grabbing world. Here's how it works...

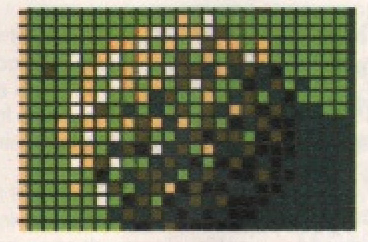
Programmers, musicians and artists develop software, often for their own use initially, and then instead of selling it for the kind of prices you'd expect to pay for commercial software, they release it as PD. This means that they give permission for anyone to copy the software as many times as they like, and give it to as many people as they see fit. So what do the developers get out of this? Satisfaction from the knowledge that other people are using their software, and respect from Amiga users worldwide.

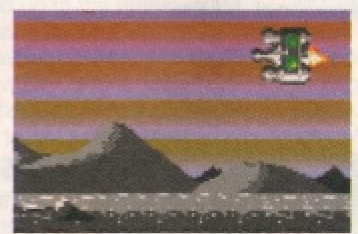
It sound like a crazy idea that would never work, but it does. In fact, there are now many thousands of PD programs, games, demos and files circulating the globe, many of which are actually superior to their commercial counterparts.

PD also has a few off-shoots, such as Licenceware and shareware. Licenceware is like PD in that it's cheap, but the developers get a small cut on each disk that's sold (perhaps 50p to £1). Licenceware is copyrighted, and it's illegal to copy and distribute this without authorisation. Shareware is often used by developers who want to make a bit of money, but are prepared to let others test the programs before sending any money. Shareware registration fees are usually about £5, for which you can expect to receive an updated version of the software with more features.

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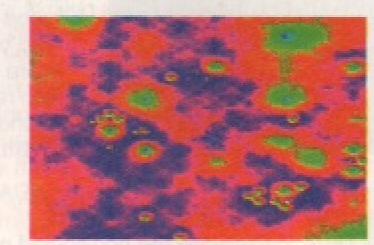














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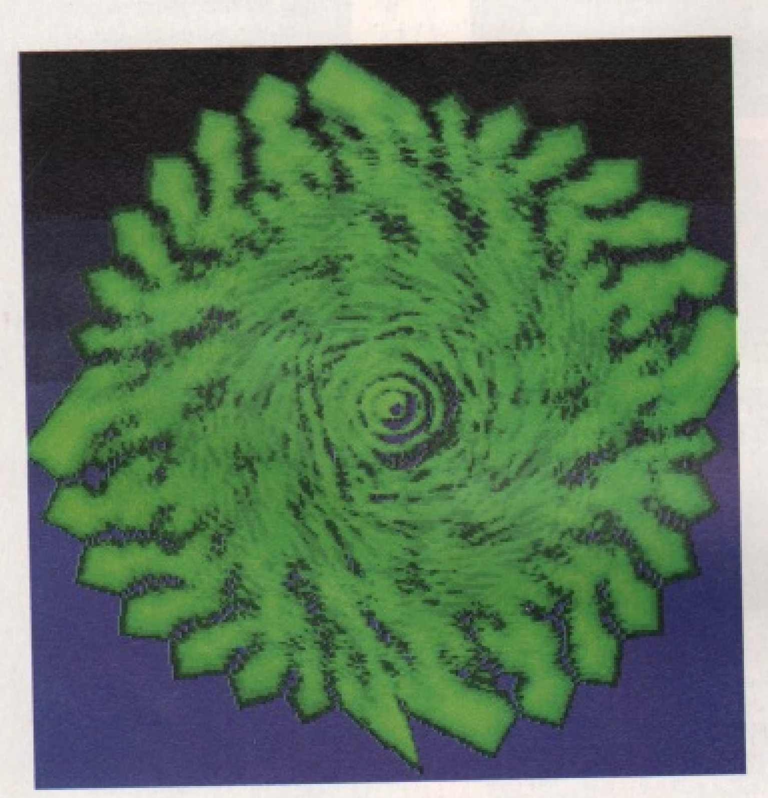
This issue of Amiga Guide is free with the November issue of CU Amiga, Britain's leading Amiga magazine. It is not to be sold separately.

DEMOS

Demos are strange things. They're a unique form of entertainment – combinations of sound and graphics specifically designed to impress. Some are impressive purely because they do things that are supposedly impossible, while others just look and sound great. The best are a combination of both, which is just what we've got for you here.

Stunning realtime video animation is possible on just an A500, and if you don't believe me just look at the 242 demo.





DESERT DREAMS

If it's value for money you're after, Kefrens' *Desert Dreams* won't disappoint. It's a two-disk megademo packed full with decent effects and one of the best soundtracks around.

It starts out with a mini-movie involving the Egyptian pyramids and an alien spaceship, all of which is drawn in super-smooth 3D vectors. From then on, it's a trip through demoland, passing through just about every graphical effect that's surfaced in the last year or so, along with a few new ones. The soundtrack works extremely well, synchronised to the graphics to change the mood accordingly, with the help of some excellent film-score atmospheres coupled with real acid-techno pounders. Good stuff.

17 Bit, nos. 2543a + 2543b.

PLANET GROOVE

AGA This was the first AGA demo on the scene, coded by Hoi, and while it doesn't do anything that amazing, there are some nice effects to be seen. After the initial firework display, the highlights are the blurred kalidescope-type graphics. That's about it.

STATE OF THE ART

Currently the undisputed number one demo, this one from Spaceballs will knock your socks off! Using revolutionary new techniques, it really is state of the art stuff.

What you've got is a fairly short rave demo with some of the most amazing graphics you'll ever see on an Amiga. While a good dance track plays in the background, a continuous flow of strobed-out visuals keep you locked to the screen. The star of the show is an athletic female dancer, whose silhoetted body gyrates and grinds over a series of freaky backdrops. Later on there's an appearance from a trampolining raver, and some highly original outline animations. The music may not be the best, but the graphics certainly are! Essential!

Requirements: 1Mb Chip RAM. Cynostic PD, no. D0031.

EXTENSIONS

Pygmy Designs are responsible for this quality slab of new effects. 3D is the theme, and the first bit of tri-dimensional trickery is a lightning fast flight around a mountainous landscape, with all the graphics made up of tiny dots. Following that is a strangely hypnotic sequence that has a series of progressively smaller cubes twisting around inside each other. After a short session of morphing symbols, the best effects of the demo make their appearance.

There's a fast-moving zoom around a dark, diseased cityscape, then a rather more relaxed chopper nightflight that buzzes another city of skyscrapers. Please return the stewardess to the full upright position, as they say.

Visage, no. 204.



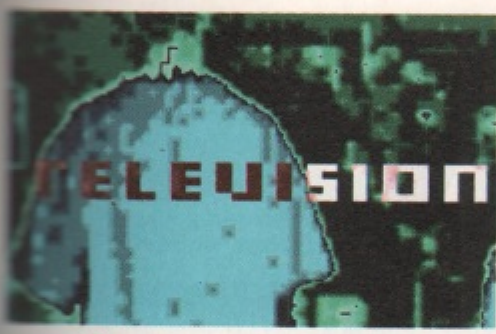
NEURAL ASSAULT

Back on the traditional multi-effects demo trail, Rage's *Neural Assault* has a stack of tasty graphics routines. 3D zooms are a favourité here, the most effective of which homes in on the eye of a mecha-humanoid. The rest of the demo is just as slick, with more wobbly bits than a convention of Page 3 models. There's also a rare ray-traced animation at the end, which make a nice change. Lots of variety here – something for everyone in fact.

Visage Computers, no. D205.







242

Now this you've got to see! If you thought your Amiga couldn't handle pro-quality video, get a load of this and think again!

It's a complete pop video on a disk, and a trendy one at that! Somehow, coding crew Fairlight have got a whole 170Mbs of digitised animation onto one disk, messed it all around to make it look really cred, and got it to play back on a 1Mb A500! Yes, I'm afraid this is yet another ground-breaking demo to add to your essentials list. The backing music isn't excactly scorching, but those graphics are something a bit special to say the very least! Can you handle just one more exclamation mark? Get it now!
Visage, no. 200.

MINDWARP

AGA This is one of the few demos currently available specifically for the AGA chipsets of the A1200 and A4000. Coded by Hoi, its most impressive features are the incredibly smooth realtime zooms, and the relaxing plasma effects, both of which have been seen before, but these are particulaly good examples. In time, the A1200 will probably take over from the A500 as the main machine for demos, but until then, AGA demos are one of the best ways of showing off your trendy new Amiga.
Requirements: A1200 or A4000. Virus Free PD, no. 3501

TEKNO-A-TAK

You are now entering a hard hat area. No, it's not a Village People demo, this is tekno of the most in-yer-face variety. From the mind of D-Tone Nation, it's a disk of five banging tracks, with rhythm courtesy of Roland's TR-909 drum machine. The razor-sharp riffs and basslines will blow the wax out of your ears, no problem. There aren't any graphics, but the music's good enough to stand up on its own.
Cynostic, no. S0117.

CONTINENTAL TECH DANCE

Strobe alert! Here's another one for all the technoheads out there. With more variety in the graphics than most rave demos, it's an impressive five minutes of chugging beats and chunky visuals. Between the usual strobes are snippets of full-screen animation. Once again the graphics out-perform the soundtrack, but this time it's a close-run thing.
Wack PD, no. D100

SANITY WORLD OF COMMODORE 92

Knocking on a bit now in demo terms, this one from Sanity is still a little corker if you want a good selection of both clever and visually-pleasing effects. First there are the tunnels (slippery smooth and very enticing), then there are the equally silky 3D zooms, and the twisty metallic columns. A couple of good soundtracks keep your foot tapping throughout the wobbly graphics.
17 Bit, no. 2344

GIGAMIX

It's true, there is life after techno! If you want something a bit more groovy, Gigamix should be just the ticket. Like Jesus on Es, it loads little bits at a time from a couple of disks, so you need an extra floppy drive, and this has to be configured as DF1:, not DF2:.

The good news is that the music is an excellent DJ mix of various funky house records. The basic graphics are synced up to the music, and even though they're not technically stunning by a long shot, the timing works well. There are two main mixes, both quite lengthy, and a good intro track too. Shame about the awful interlude music. Still, this is definitely one to get your mits on.
Virus Free PD, nos. 2121a + 2121b



HOW TO SKIN A CAT

Keeping in the relaxed theme, Melon Design's uncomfortably-titled How to Skin a Cat is a demo from a quietly confident team who don't feel the need to write boring scrolltexts about how many points they've got on their realtime vectors. Instead they let the sound and pictures do the talking. Jelly vectors, blurred 3D dot patterns, and more vectors are on the menu, along with some blink-and-you'll-miss-it AGA support.
Cynostic, no. D0138.

MONOXIDE

A dark buzzing techno soundtrack is the backbone to this one from Vanish. While the visuals vary from excellent to tedious, the music carries the demo admirably, with an incessant pounding beat and bassline, and some choice supporting samples. Played quiet, it's not mind-blowing, but crank it up (and push the bass to max), and you've got a right stomper on your hands!
17 Bit, no. 2343.

CLAUSTROPHOBIA

Tunnels are the best demo effect going, and that's official! Claustrophobia has some of the best examples – I could sit and watch these for ages, if only they stayed on screen for long enough. The rest of the demo isn't up to much, but if you're into a bit of escapism, these can't be beat!
17 Bit, no. 2425

RETINA EURO 1

Anyone still hungry for more hardcore demos should check this out without fail. If you didn't catch it when it was on the September 1993 CU AMIGA coverdisk, you probably won't know that it's an extremely intense combination of fast breakbeats and hyper visuals. Another for the collection.
Cynostic, no. D106

LEGALIZE IT II

Breaking away from the predominance of hardcore and techno, Anarchy's Legalize It II brings together eight very clean jazz-funk tunes. The slapped basses and bright drum samples are way ahead of most demos in terms of sound quality, and the tunes themselves are really rather nice. There's also a neat front-end that acts as a menu.
17 Bit, nos. 2380 + 2380b (two disks)

SUBTLE SHADES

Abstract have got together a good selection of "flavour of the month" effects on Subtle Shades, and the end result isn't half bad. Some retro spinning coloured balls get things started, then it's straight on with not one, but two inter-snaking dot tunnels. After the blobby scrolltext, it's time for a pulsating ameoba-like thing, that pumps and morphs around the screen for a short while.

A dot ball, which turns into a Michelin man, is followed by a neat firefly effect, then a classy bitmap rotational zoom on a portrait of a Madonna lookalike. A little cameo of Batman brings the whole thing to a close.
Cynostic PD, no. D0198.

JESUS ON Es

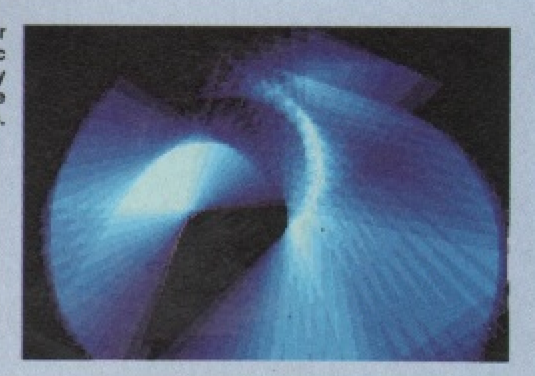
Rarely is a demo released that provokes such a response as *Jesus on Es*. It's a 2-disk rave demo that lasts for about half an hour. The soundtrack is an excellent non-stop mix of typical 1992 breakbeat hardcore, and the synchronised graphics include spooky animations and abstract colour effects.

While most "consumers" quite rightly hold it in high esteem, there's a bit of a sour grapes attitude from some of the other demos coders who think a demo is only impressive if it's technically innovative. Wake up boys and girls – who gives a toss if it's got six million bobs on screen at once, so long as it looks and sounds good? It's the end result that counts, and the result here is superb. If you've got an external floppy, there's no excuse to be without a copy of the most kickin' demo on the scene.
Requirements: 2 floppy drives. 17 Bit, 2268a + 2268b

REQUIREMENTS

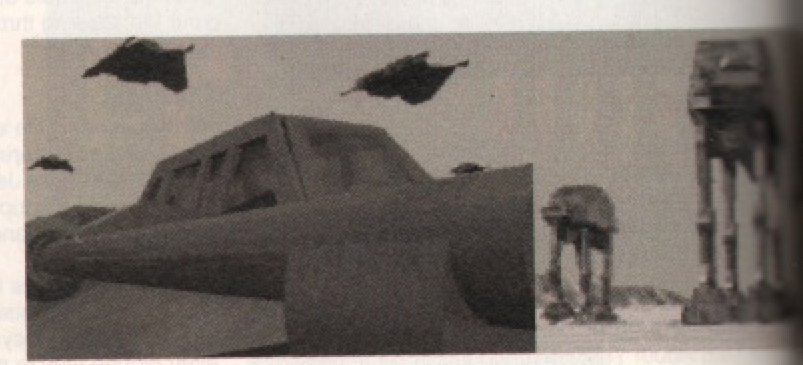
Most demos are designed to run on a basic 1Mb (half Chip and half Fast RAM) A500. However, some need expansions, such as extra memory or a second floppy disk drive. If no extra requirements are listed, then you just need the basic 1Mb A500.

Amaze and amuse your friends with hypnotic effects and trancey soundtracks from the best in Amiga demos.



ANIMATIONS

Full-screen animation eats up a lot of memory, so many of the better examples need extra RAM to run. These days it's rare to find a good animation that fits in a 1Mb machine, and many can demand as much as 6Mbs! An extra floppy drive is also a big help, as most anims come on more than one disk, and loading can otherwise involve an enormous amount of disk-swapping. Time for an upgrade perhaps?





ALCHEMY ▲

This nearly went into the demos section, simply because it doesn't conform to the usual animation standards. It looks like a hackers demo at first, but through the use of some clever techniques, including fractal landscapes, vector graphics, and custom-written scrolling routines, it chronicles the adventures of a pilot of the future, making his escape from Darth Vader's Empire.

Due to the alternative animation techniques, Alchemy has a completely different style to the majority of ray-traced or cartoon animations in the public domain, and it's pretty substantial too.

Requirements: 1Mb 17 Bit, nos. 2600a + 2600b

HEADING FOR HOME

Short and sweet, Heading For Home is a finely detailed ray-traced sequence from one of the public domain's new stars, Craig Collins.

You won't find much of a plot, but the graphics are pretty good all the same. What you've got is a little spaceship (a sort of 21st Century equivalent of the Renault 5), which is just embarking on a trip down to the local branch of Sainsburys. Well, I think it's supposed to be a spacestation actually, but what's to say that Sainsburys won't have branches in space in the 21st Century?

Even though it's a shortie, Heading For Home is a good example of how crystal clear you can get your ray tracings without the aid of an expensive 24-bit graphics board.

Requirements: 3Mbs RAM. PD Soft, no. 3069-3073.

BEACH ANIM

Yet another completely different style of animation, Beach is a weird one from Carl Inc. Everything takes place on a single static background, and at first it looks as if nothing much is happening. However, look closer, and you notice that just about everything is animated in some way. The more you look at it, the more you see.

Requirements: 1Mb 17 Bit, no. 2554.

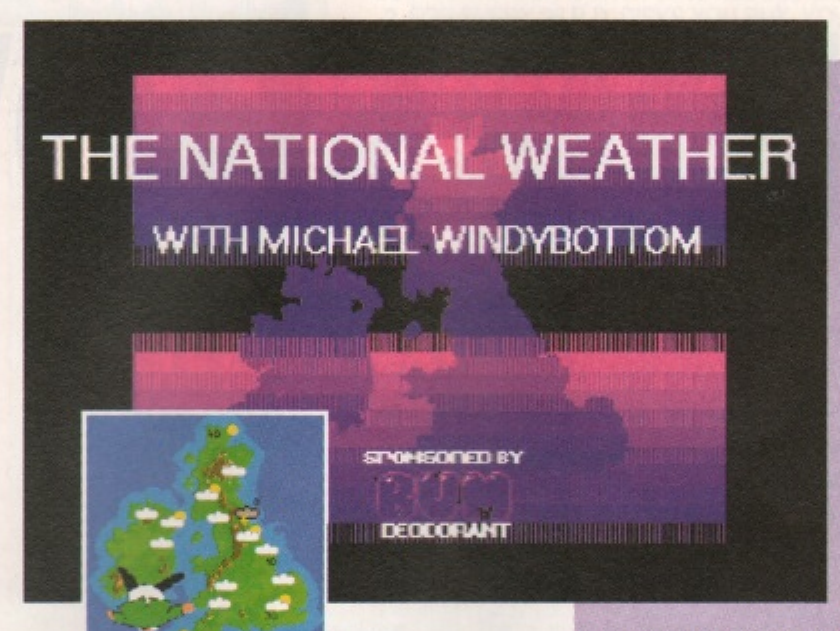
ANIMATION

LAST STAND ON HOTH

For true cinematic quality animation, this is the business! Craig Collins is the man behind it all, and this is definitely his best yet.

It's a battle between the AT-ATs and Luke Skywalker's good guys, all texture-mapped, ray-traced and animated superbly in 3D. A black and white colour scheme has been used to keep the memory consumption down, allowing it to run in high resolution for extra clarity. Apart from the detail, it's also incredibly realistic to watch, due to the excellent movements of the AT-ATs and the airbourne ships. If you've got a fast machine, you get the bonus of a 50Hz frame rate too! Don't miss this monster!

Requirements: 3Mbs 17 Bit, nos. 2754a, b, c +d.



WEATHERMAN

Now this is a strange one, and no mistake! It's a series of weathermen's nightmares. It all seems to be going well at first, as the Michael Fish-a-like points out the impending rainfall and sunshine, but then things start to go horribly wrong. Using the old sticky magnetic symbols on the chart turns out to be a bad idea, as the clouds and suns fall to the floor. Then there's the date at the top of the screen, which lands on his head. When you thought it couldn't get any worse, Mr Weatherman realises that it's not a map at all – he is in fact thousands of feet above the ground. On realising this, gravity takes over, and the hapless presenter tumbles groundward to his doom! Oh dear.

Requirements: 1Mb. 17 Bit, no. 2652.

BOND'S LAST STAND

You've seen the original a hundred times: Bond walks cooly into shot at the start of yet another film, turns to face the camera, and shoots a deadly bullet from his Walter PPK, covering the screen in a flood of blood. The thing is, this time his misses, has a few more attempts, then runs out of ammo. This is the cue for the cameraman to get his own back, who proceeds to fire a volley of lead back at Bond, reducing him to a pile of corned beef. Very tasteful I'm sure!

Requirements: 1Mb. Cynostic, no.A0075.

SNOW JOKE

One of the best cartoon animations currently available, *Snow Joke* features the adventures of Charley the Cat. In a kind of feline ve rsion of the Popeye scenario, Charley gets himself into all sorts of bother as he tries to win his girl, fighting off the challenges and sabotage of his Bluto-esque rival. Plenty of snowfoolery abounds, and the art is excellent from start to finish. Quite a gas all in all.

Requirements: 2Mbs RAM. Cynostic, nos. A0025a + A0025b.

SAVINGS CERTIFICATES AD

This is a computerisation of the National Savings TV ad, the one with the resplendently emerging butterfly who gets eaten by a frog just seconds after he's out of the cocoon. The frog gets his comeupance though, as a car soon comes along and squashes him under the wheel. That's life.

Requirements: 1Mb 17 Bit, no. 2375.

CAN IT

From the animator responsible for the Raging Hormone cartoon, Can It stars Alvin Aerosol in a curious little adventure. Starting in the bathroom, Alvin tries out his insecticide contents on a fly buzzing around his head. Fair enough, so why does he then hop out into the garden and disintegrate into a pile of ashes? Answers on a postcard to...

Requirements: 1Mb 17 Bit, no.2314.

THE AD

It's that man Craig Collins again, this time with a rather difficult to follow mini-film. Crank up the contrast controls to max, and you should be able to make out what's going on in this ray-traced anim that's verging on epic. Whatever the plot, it's a roisterdoistering sequence of action scenes set in deep space. Lots of explosions and spaceships are on show, and the level of detail is very impressive. Worth watching through a few times to get some idea of what's actually going on!

Requirements: 4Mbs
Ground Zero, no. A148-150

3 WAYS TO STOP SMOKING

There are plenty of less-hazardous ways to kick the habit, but the three suggestions in this humourous demo may be worth considering if you're really desparate. Then again, maybe not. Whether you think it's worth taking a meat cleaver to your hand in order to give up or not, this is well worth a look just for a laugh.

Requirements: 1.5Mbs
Visage Computers, no. A120.



QUALITY TIME

By far the best of his recent cartoons, *Quality Time* is a 4Mb extravaganza from the immensely talented Eric Schwartz. Flip the Frog and the disturbingly-sexy Amy the Squirrel are the stars in this simple tale of a passionate couple who can't get a moment's peace from callers at the door. If it's not a girl guide selling homemade cookies, it's a cranky religious type on a preaching mission. Proper cartoon-quality animation, spiced up with all those little Tom and Jerry type details and some great sound effects make this one not to be missed by anyone with enough RAM to play it.

Requirements: 4Mbs RAM 17 Bit, nos. 2514a, 2514b,251c +2514d

BAIT MASKING

Not in the same league as *Quality Time*, Eric Schwartz' *Bait Masking* is still strides ahead of most of its rivals. It's a rather confusing sequence in which a worm on a hook is lowered into a pond. Along comes a fish, who is then scared off by a spooky mask that's quickly donned by the clever worm. Back comes the fish with a mask of its own, and then the worm gets scared and puts its mask back on...or something like that. Anyway, another essential for all Schwartz fans.

Requirements: 1Mb. Cynostic, no. A0074.

RAGING HORMONE

Any budding office romance is the basic plot for *Raging Hormone*, a cutesie cartoon featuring strange fluffy gofer-type things in the lead roles. The animation is minmal, but all the graphics are nice and big, with plenty of colour and humour, making a refreshing alternative to the many Eric Schwartz lookalike cartoon animations. Original, amusing, and rather weird.

Requirements: 1Mb. 17 Bit, no. 2285.

SLIDE SHOWS

Some of the best Amiga graphics can be found on slideshows. Simply collections of still screens, slideshows are a great way of showcasing the many highly talented artists on the PD circuit. In general, slideshows only need 512k to run, so whatever machine you have, you can enjoy these in their entirety.



Manga fans are well catered for when it comes to slideshows.



JAPANIME
Using the increasingly popular Japanese manga cartoon style, Japanime is a very classy slideshow. For some reason it pretends to be an Amstrad 128 before it gets on with the business of the graphics, but when it does, it does it in style. Some of the pictures are animated, and others are three or four times the size of the screen, having to be scrolled around so that you can view them in all their glory.
Pathfinder PD, no. PD114a + PD114b

AKIRA PICTURE DISK 2
There's plenty more manga stuff on this single-disk collection. Most of it's pretty slick, and despite the odd low point, it drips class.
17 Bit, no. 2695.

GLADIATORS
The Gladiators are back, so I suppose we're all going to have to start debating who's the ugliest one again. You can add a bit of order to your arguments with this slideshow of all the regular Gladiators. The hunks and hunkettes are all shown complete with their heights, biceps and thigh measurements, so everyone else can feel like very big weeds indeed.
17 Bit, no. 2278a + 2278b

REVELATIONS
Now this is something a bit special. You don't need an AGA machine to run it, but if you were told these were 256 colour pictures, you wouldn't doubt it for a second. Not only are the graphics superb, but there's even a good tune to go with them! Spot on.
17 Bit, no.2545.



STAR TREK DEEP SPACE 9
To be honest, the pictures on this disk aren't exactly scorchers (in fact, some are downright awful), but they are taken from the highly popular Deep Space 9 series, and that fact alone makes it one of the most popular slideshows of the year.
PD Soft, no. 3108.

WOODEN HEART
Not so much a slideshow as a small comic strip, *Wooden Heart* is a strange disk. The Pope is the star, who somehow gets mistaken for Elvis Presley as he gets off a plane at a foriegn airport. Elvis fans may find the punchline about being made of wood, and having a wooden heart amusing. I just liked the pretty pictures.
17 Bit, no. 2558.

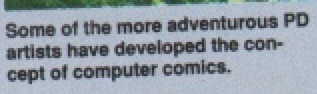
COMIC ART 2
For anyone into American superhero comics, this is real treat. Redrawn by hand it would seem by the compiler Cyber, it features such greats as The Incredible Hulk, The X-Men, Thanos, Wolverine, Rogue and Spawn.
Cynostic PD, no. P0006.

CYNOSTIC AGA SLIDESHOW
[AGA logo] This is a very impressive collection of 256 colour stills, designed to show off the power of the AGA graphics chips, which it does v ery well. Some are ray-traced, others are surprisingly realistic fractal landscapes. Well worth getting hold of, if only to see the potential of the 256 colour mode.
Cynostic PD, no. P0008. 17 Bit, 2558.

SLIDES



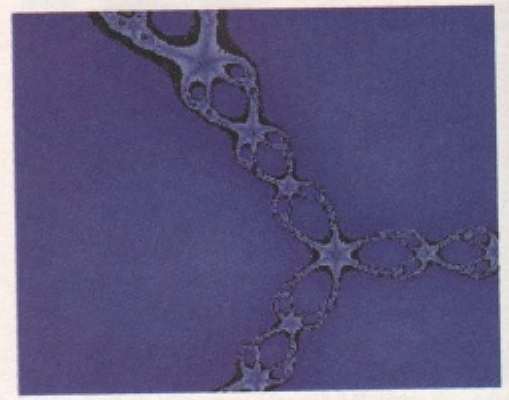




Some of the more adventurous PD artists have developed the concept of computer comics.

GRAPHICS

Let's be frank for a second or two. The public domain doesn't have anything to rival the big paint packages like Deluxe Paint or Brilliance. On the other hand, there are some areas where the PD versions are as good as, if not better than, the top commercial offerings. For just a couple of quid each, you can pick up disks capable of morphing, generating fractal landscapes, image processing and video editing.



Weird landscapes and patterns are no problem with programs like *Mand 2000* and *Mandelplot*. You can even create your own fractal animations on the cheap.



Yes, you too can give Josie Lawrence a sex change, with the help of the super-speedy *Minimorph 1.0*.

MINIMORPH 1.0

Almost as soon as the technique of morphing was developed on multi-million dollar computer systems, it filtered right down to PD level. The best of these was, until very recently, *VMorph*, which you may have fromwhen it was included on a coverdisk of the August 93 issue of CU AMIGA. The original was written with AMOS, and has now been re-written by another programmer using assembler, who has changed its name to *Minimorph* in the process. The main advantage of the re-write is its immense increase in speed over the AMOS original.

Like *VMorph, Minimorph* works with 16 colours in low resolution. What is does is to change one image into another over a specified number of frames. Instead of simply fading one into the other, it asks you to define areas of the first image that relate to similar areas of the second. For example, if you had two faces, you would set up an outline of one eye, then do the same on the second. To morph two cars, you might choose the wheels, windows and so on. You'd then do the same with the other features, not forgetting the main outline.

Once you've finished, you can tell the program to work out and draw the frames in between. The result is a smooth transformation of the first image into the second. As a kind of bonus side effect, you can warp pictures too. It works in a similar way, except that the first image doesn't become the second – the specified areas are simply moved and stretched into their new locations.

Minimorph is very fast – in fact it's probably the fastest morpher there is, commercial or PD. Needing no more than a few seconds to render each frame, it encourages experimentation. If you make a mistake, it doesn't matter, because you're not going to have to leave your Amiga rendering a dodgy animation all night – it all happens right before your eyes. Get a copy and prepare to be amazed.

Ground Zero Software, no. U289

MAND 2000

Vying with *Mandelplot* for the title of top PD fractal generator, the PD version of *Mand 2000* is also a reduced release, upgradable to the full program for a few pounds registration fee. It's mainly the excellent zoom feature that makes this one stick out. You can use the mouse to zoom in on any part of the fractal, which is then redrawn instantly in a chunky form, then updated in high resolution. You can use this to get straight to any part of a fractal, and also to test out zoom animations, which it handles very smoothly indeed.

Cynostic, no:TBA

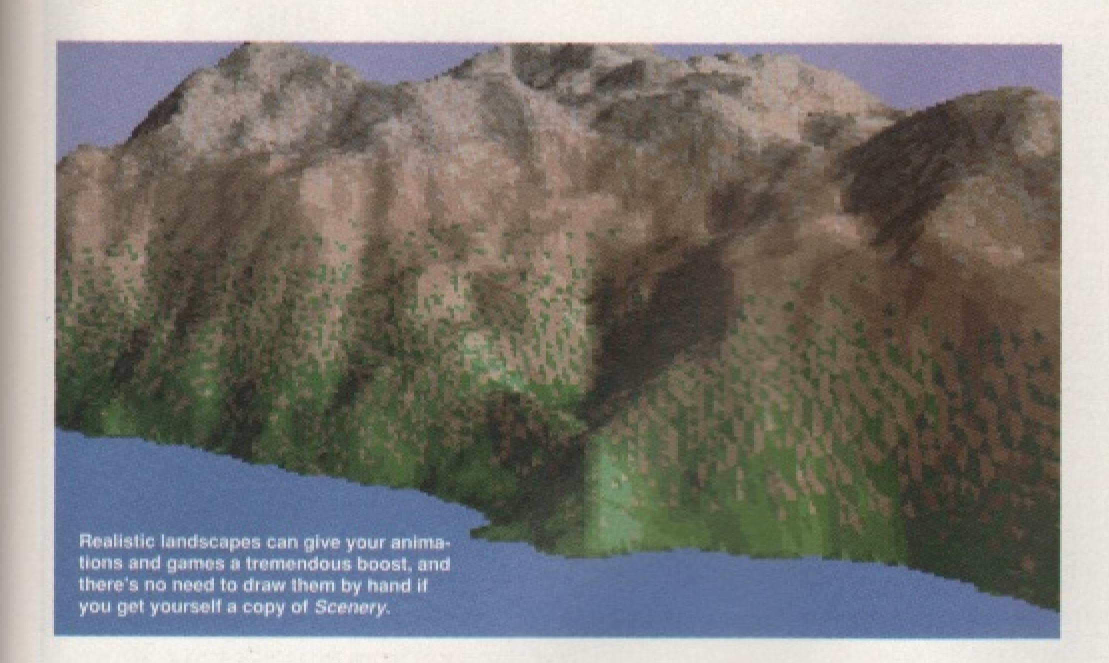
MANDELPLOT 2.4

There are fractal generators by the bucketload in the public domain, but most are very slow. *Mandelplot 2.4* is a cut-down but still very powerful example, and what's more, it's one of the fastest. Of the many 23 fractal algorythms available on the registered version, the PD release has ten for you to choose from.

There's an awf ul lot you can do with the basic algorythms too.You can choose between 2D and a number of 3D modes, generate zooming animations, and tweak all manner of other knobs in order to get something different. Even though it's one of the fastest, most of the more elaborate images do take quite a while to render, but the results are worth the wait.

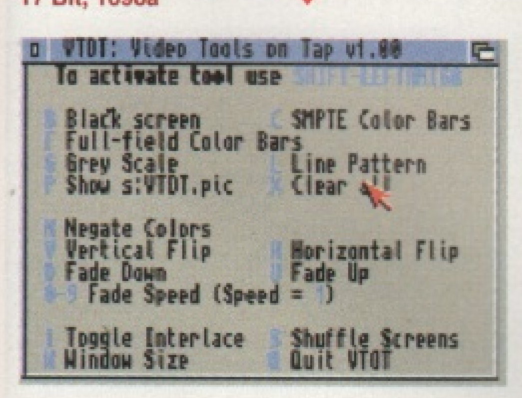
Cynostic PD, no. TBA




Realistic landscapes can give your animations and games a tremendous boost, and there's no need to draw them by hand if you get yourself a copy of *Scenery*.

GRAPHICS TOOLS 1
There are loads of little graphics utilities that only need a little space on a disk, so to release them all separately would be rather wasteful. Instead, it's far better to get hold of them on compilation disks such as this neatly presented example.

The disk is split into three main categories: graphics, video and animation. Each has a wide range of useful, obscure, and sometimes rather strange little programs, most of which will come in handy at some stage. The graphics section includes animation file convertors, a screen grabber (Screen X), a scenery generator and some fade effects for IFF pictures. In the video section are testcards (with audio tone), monitor testers, a time code calculator, and a very handy Workbench effect panel that can flip and fade the screen at the touch of a button. The animation directory has a simple but effective mouse-controlled animation player.
17 Bit, 1698a



GRAPHICS TOOLS 2
It more of the same with volume 2, except that there are more video-orientated programs on this one, including some flashy titlers.
17 Bit, 1698b

GRAPHICS UTILTITES 1+2
This is chock-full of image processing, conversion and generation programs. On the menu we have: BezSurf, Load Image, Cloud 9, Model 4D, Convertor, Mandel, D-illusions, PicSaver, Fenster, Mountains, Scenery, Imagelab, Image-Ed, Superview and Ultrapaint. This is what PD is all about – 15 decent programs for less than a couple of quid! You can hardly go wrong. The second is filled with Anim Studio, IFF2pcx, PPShow, Conv Brush, Landscape, GIF, Picturesque, Huge and View. Like the first disk, this is another must for the collection of any adventurous graphic artist.
17 Bit, nos. 2645a + 2645b

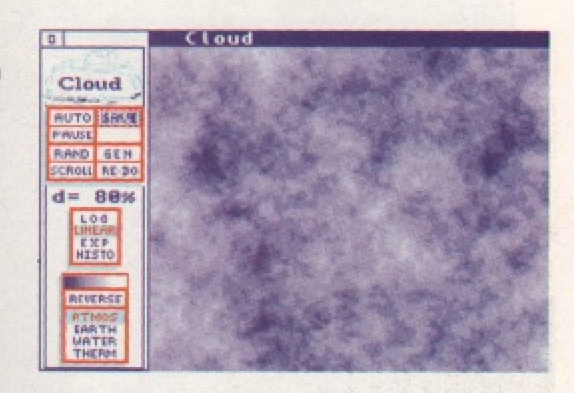
VIDEO APPLICATIONS
This is another video utility compilation, featuring a truckload of handy little programs to make the life of the videophile that bit easier. Among the programs ae a couple of titlers, and a number of animation players. There's also a video cataloguer, so you can keep track of all your tapes, and a time code log to store list of edits.
Galactik PD, no. U071.

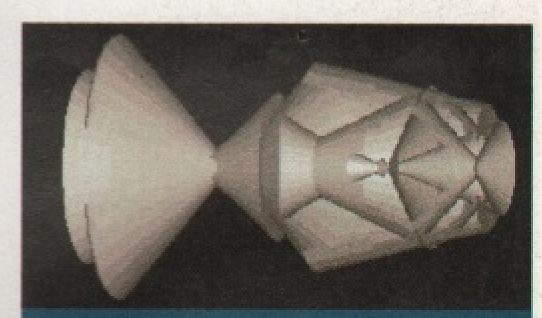
BLUE ROSE FONTS
Bitmapped fonts are extremely versatile. Unlike scalable fonts, bitmaps can be used for video titling and all manner of other graphics applications, as well as DTP. If you start expanding bitmaps you'll start to get jagged edges, but even these can be cleaned up if you have a little time.

This collection of bitmapped fonts is one of the best around. They come as low-res colour IFFs, although you can of course use them in any resolution you like. No less than 51 different fonts are included in the whole set (yes that's right, 51!). Anyone into video titling, or just graphics in general, would do very well to check them out.
Blue Rose PD, no. "BRFonts"

DJPEG
There are so many different picture file formats now, that getting different systems to talk the same language can be very difficult. JPEG is an incredibly efficient picture compression technique, which can drastically reduce the amount of disk space needed for particularly high definition images. The trouble comes when your software doesn't accept the JPEG file format. DJPEG allows you to convert JPEG files into TARGA, PPM or GIF formats. This isn't so handy for anyone who soley uses the Amiga, but if you're involved in a system that includes Apple Macs or PCs, this could be a godsend.

The controls are operated simply from a point-and-click panel, so there's no messing around with confusing CLI commands. The only query is with the lack of IFF support, which seems strange, as IFF is still the main Amiga image format.
17 Bit, no. 2700.

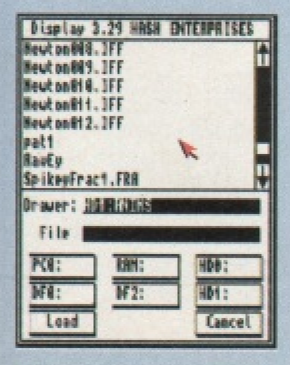


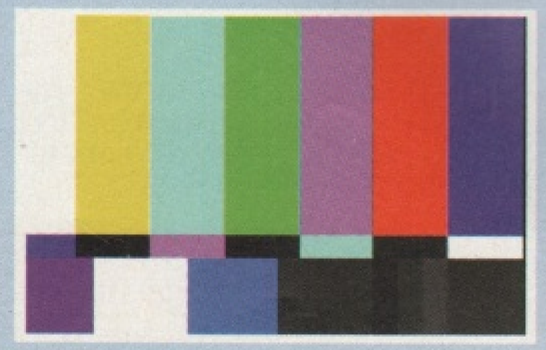


3D OBJECTS
Clip art has been around in DTP circles for years, so why shouldn't the world of 3D ray tracing get in on the act? These *Sculpt 3D* files are an excellent way of saving valuable time that would otherwise be spent designing and tweaking new objects. Rendering your scenes and animations takes long enough as it is, without you having to spend even more time constructing objects.

To be honest, the objects included on the disk aren't stunningly exciting, but they are functional, and it's the more ordinary objects that are the least fun to design anyway, so in a way that's a plus. There are three categories: furniture, street objects, and a set of cannon-related items. In the furniture section you'll find a four-poster bed, a chair, a mirror and a lamp. The street directory is home to a lamppost, traffic lights and a signpost. As you'd expect, the cannon section has a cannon, along with a bucket, some cannonballs and a ramrod.

To give you an idea of what they actually look like, three rendered scenes are included on the disk as IFF files. 3D clip art is quite rare, both in the PD and commercial sectors, so this is well worth looking up – you never know when you might need a 3D bucket!
PD Soft, no. V1061

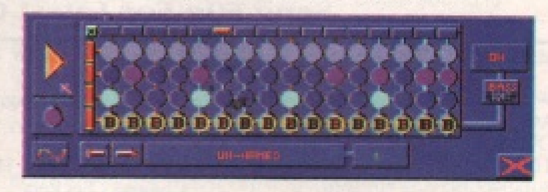




Videographers have plenty of public domain titlers and test software to choose from.

MUSIC

X-Beat is another example of a great PD program that has absolutely no commercial competition.





You couldn't ask for a more friendly drum machine and bassline sequencer than *X-Beat*.

Believe it or not, your Amiga, whether it's anything from an A500 to an A4000, is capable of stunning audio feats. In fact, you could write a hit record on your computer for no more expense than a few quid! I kid you not! All you need is the right software, bags of enthusiasm, and the rest is up to you. Even if you just want to tinker about with strange noises, make your voice sound like a monster, or create some sound effects for a game, there are plenty of bits of PD that are more than up to the job.

X-BEAT PRO 1.1

There are times when you might not want a full-blown sequencer, with all the complications that come with one. If you just want a drum machine, *X-Beat Pro* is a good choice.

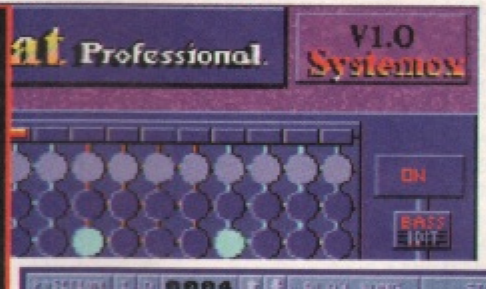
The layout is very simple – so simple in fact that anyone can pick it up and instantly start knocking out some beats. The main editor screen gives you four visible tracks for you to fill with drums and bass. Different sounds can be used on the same track, so you can use more than four samples, even though you can only play four simultaneously. There are 29 drum samples built in to the program, giving you a fairly wide range of kicks, snares, high hats and a few percussion sounds to play with.

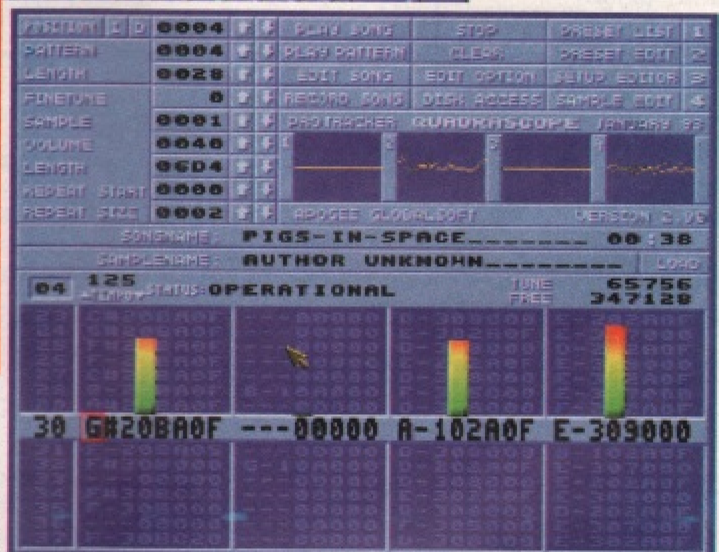
To pick your sound, you simply click on the name from the menu. You can browse through the menu just clicking on the sounds to hear them, and once you've got the one you want, it's back to the editor screen. Now you can plonk your rhythm down on the track with the mouse, and hit the play button to hear it. Once you've got one part down, you can go and choose another sample, and put another rhythm on another track.

There's also a bassline generator too, which includes three bass samples. This works on a similar principle, giving you a two-octave keyboard on screen, which you use to tap out the bassline with the mouse. You can either enter the bassline in step time, or record it in realtime. It really couldn't be any easier.

Even though there are quite a few samples on board, *X-Beat* lacks the facility to load in any new samples. With the addition of this feature (which will no doubt come with a future revision), *X-Beat* will be an essential tool/toy for anyone who like to mess around with sound and music. In fact it's excellent fun just as it is.
Diskovery, no. U331.







Protracker is a standard among the demo writing community, favoured for its power and speed.

PROTRACKER 3.1

The other main player in the tracker field is *Protracker*, which tends to be favoured in hacking and PD demo circles. It works along the principles of *OctaMED*, but doesn't have *OctaMED*'s notation editing, MIDI support or eight channel modes.

One of the main advantages of *Protracker* is that it evolved directly from *Soundtracker*, the original tracker that started it all off many years ago. This means that it has a massive following worldwide, and although it's not the most user-friendly program by a long shot, it's what many coders and musicians have grown up on. Before you decide whether to join the *OctaMED* or the *Protracker* camp, get hold of both and see which suits you best.
17 Bit, no. 2441

CHORD TUTOR

If you have trouble with your chords, then maybe it's time you took a look at this little number. As the name suggests, it aims to teach you chord structure. It does this in a very simple way, with the aid of a big piano keyboard in the middle of the screen. When you choose a chord from the menus, it puts dots on the relevant keys, and plays the chord on a synthesised reed organ type sound. You can go through all of the many chords on the menus, trying to learn the positions of the notes for each chord, and then enter the test mode to see how good you were.

For the test, you have to highlight the correct notes for the current chord. You do this with the mouse, but you can't actually play the chord, as you have to click each note separately. If you stuck with it long enough, you could probably master the basics of chord theory, and after a while you might begin to understand what a "C major 5th" is all about. I'd rather use this than go through tedious sessions of piano lessons any day, although after all this I still only know a handful of chord sequences, but then I always was a bit of a hopeless case. By the way, this one is actually copyrighted Licenceware from the Central Licenceware Register.
Systec PD, CLE 25.



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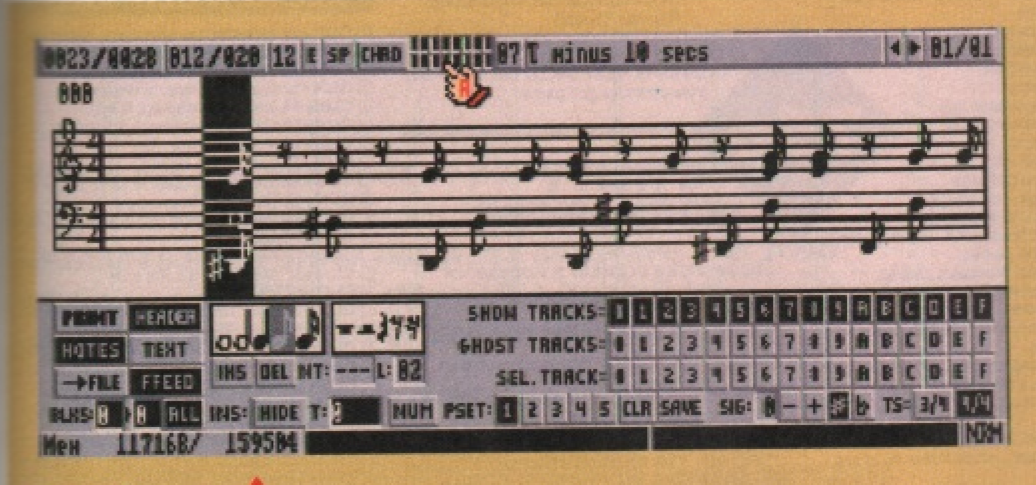
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MUSIC CONT.



OctaMED V2

It's a close-run thing between *OctaMED* and *Protracker* for the most widely-used sampler/sequencer on the Amiga, but there's no doubt about which is most powerful. *OctaMED* is way ahead of the competition when it comes to its sheer number of features. Version 5.00e has just been released commercially, but if you want a taster, version 2 is available for the price of a disk.

OctaMED is a sequencer that uses the standard "tracker" format. Unlike the expensive commercial MIDI sequencers, the bias with *OctaMED* is towards using samples (even though it handles MIDI very well indeed). The program itself has been kept quite small in order to leave room in the memory for samples, so even on a 1Mb machine you've got room for about 300K of sounds.

Like all trackers, it works on a system of tracks, blocks and sequences. Music notation can be used to enter and edit pieces, but to use the program properly you have to get into the initially-confusing block editor. This uses numbers and letters to represent the music, and although at first it looks horribly complicated, it's really quite simple. Notes are entered via the computer keyboard, or from a MIDI keyboard if you have one attached. Melodies and rhythms can be recorded in real time, but the resolution of the blocks means that there's heavy quantisation, unless you turn the tempo right up. The auto-quantisation is actually very handy, especially if you're programming beats or any other time-sensitive parts.

There's a sample editor built into the program, so if you need a new sound, there's no need to load up a separate program to do the sampling. All you do is switch to the sample editor, set up a blank space, and record straight into it. Then you can trim and edit the sound, and in next to no time you've got yourself a new sample to integrate into your existing tune. Treble filter and boost controls are also found here, which is useful for adjusting the EQ on your samples.

Synthesised sounds are also possible. Synth sounds are produced in real time by subjecting basic waveforms to various oscillations. These sound pretty awful in general, but it is possible to get good results if you stick with it for long enough. Combinations of samples and synthsounds can be interesting too.

One of the most impressive features is *OctaMED*'s ability to play eight samples at once, instead of the standard four. The price you pay is reduced tempo control, fewer available effects commands, and quite a drop in sound quality (although this isn't so bad on accelerated machines).

The trump card as far as many are concerned, is the MIDI support. *OctaMED* combines MIDI and samples very neatly. Setting up instruments for MIDI is a very simple affair, and you can use up to 16 tracks. For many, *OctaMED* is the only sequencer powerful and flexible enough to fit the bill. This should have a place in the collection of every Amiga musician. A save-disabled demo version of *OctaMED 5* is also available as PD.

Seasoft, OctaMED 2/OctaMED 5

SUPERSOUND 4.12

Another one that isn't strictly PD, *Supersound* is nonetheless just as cheap, and what's more it's better than just about anything you could find in the commercial sector. The main program is a sample editor. You can also use it to sample new sounds, either in mono or stereo.

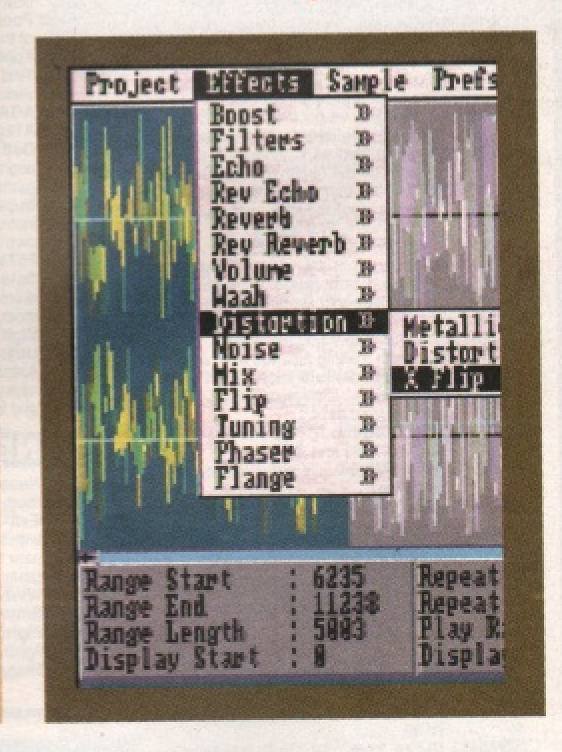
What makes this such an essential piece of software is the massive range of editing facilities on offer. Most editors give you a few effects (maybe a flanger and an echo), but *Supersound* has racks of them, all waiting to transform ordinary samples into killer sounds. On top of the usual phasers, echoes and passable reverbs, there are unique effects such as X-Flip, which reverses alternate sections of the wave, various waah effects, distortion, filters, boosters, a crossfade mixer for making instrument sounds easier to loop, and a centralise function to counter the side effects of heavy filtering and phasing.

There's also an excellent intelligent looping facility, which instead of just seeking out two points where the wave crosses the "zero line", attempts quite successfully to find loop points where the wave is similar at both ends. Precise editing is no trouble, as you can work on sections as small as two bytes.

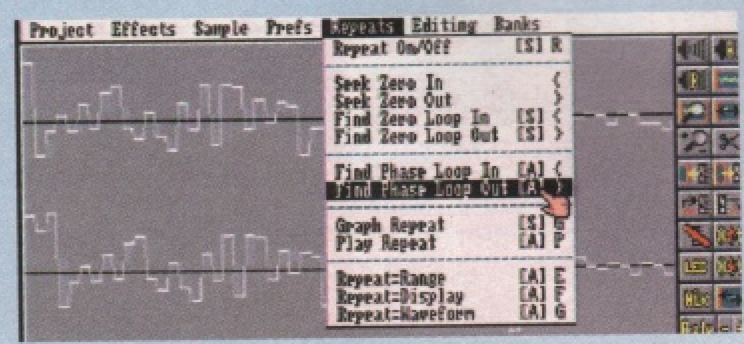
To round it off, there's one of the best realtime effects processors also included on the disk. The Realtime Effects Generator (TREG) includes various programmed and user-definable delays, phaser, flangers, vibrato, pitch-shifters and robotic distortion options. Used in the right way, the quality of these effects is good enough for professional use.

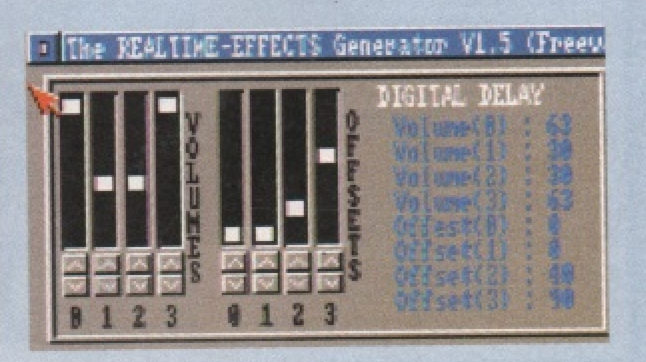
Supersound is a two-disk set selling at PD prices (£4 for the pair), and should be at the front of every sample-fiend's disk box.

KBE Software no. n/a



You won't find a better sample editor than this without spending over £100 on the nearest commercial equivalent!





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APPLICATIONS

You could pay hundreds of pounds to kit yourself out with word-processors, spreadsheets, databases and other business software, but then again you could save yourself a packet by shopping around for PD alternatives.

EXCEL DATABASE

If all you want is a very simple database without the complications of a more advanced program, this could be what you're looking for. Most of the functions work fairly intuitively, although it's strange that there's no file requestor. To load a file you have to enter the path and filname "blind" as it were, without the aid of a directory listing. If you can get by with this, it should do you as a means of storing notes on any collections you may have.

17 Bit, no. 2496

ACCOUNT MASTER 2.1

Putting your home accounts into order won't be a problem with *Account Master*. There's no need for a complex program here, and thankfully everything is kept as clear and simple as possible, without compromising on power and flexibility. Entering new transactions is no problem. All you do is enter the date of the transaction, any code you may need, the amount involved, the item involved, and whether the money was debited or credited to your account. This information is then slotted into the file, which is then updated according to the new information. With no bother or fuss, it should suit anyone who needs to keep records of their incomings and outgoings.

Ground Zero, no.U273

EASYCALC

Probably your best bet for a spreadsheet, *Easycalc* lives up to the implication of its name. If you've used awkward spreadsheets in the past, this should come as a breath of fresh air.

As well as being very simple to use, thanks to the combination of the menus and the general point-and-click interface, it's also very fast. It runs just about as fast as you work, so it shouldn't slow you down. If you do find yourself struggling with a particular section, you can always turn to the on-line help function. It may not be as feature-packed as some of the vastly more expensive commercial offerings, but it should suffice for most home and small business situations.

17 Bit, no. 2507



AMIBASE PRO II

This keyboard-driven database does look a bit intimidating at first, but despite the lack of a mouse interface, it's quite easy to use. You won't find any startlingly powerful features, but it does the main jobs of filing, sorting and searching out info without any fuss. It gets the final vote over *Excel* for its superior speed and the inclusion of a file requestor.

17 Bit, no. 1654

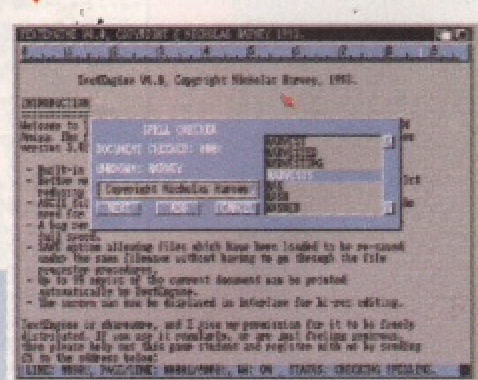
TEXT ENGINE 4.0

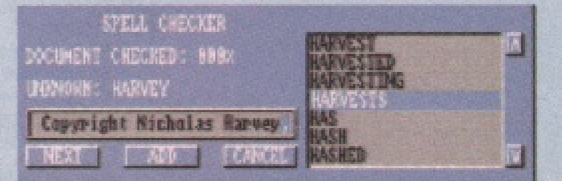
Now this is a real corker of a program. It's not just a simple text editor masquerading as a word processor, this is the real thing! Apart from all the usual editing functions, it's got styling features such as bold, condensed, double strike, elite, enlarged, italic, NLQ, pica, proportional, subscript, superscript and underline. There are also options to switch in and out of interlace and NTSC modes, and there's even a spellchecker!

All of this on a PD disk is pretty stunning, and what's more, the program itself is very easy to use, with all the standard window and menu systems as they should be. Great stuff.

Ground Zero, no. U272









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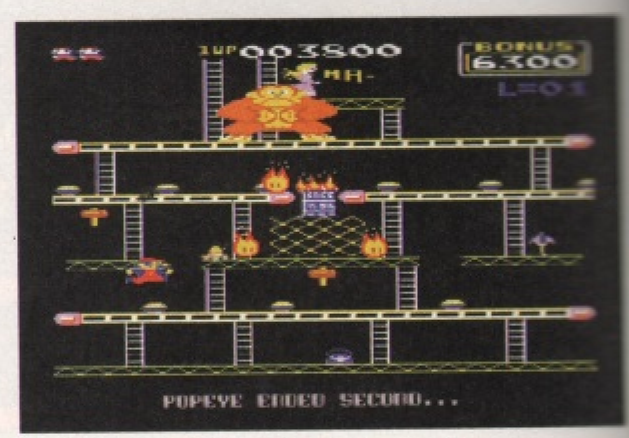
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GAMES

With prices of games rising all the time, the PD is an oasis of cheap and cheerful entertainment. Playability is the priority here, and while you won't find many graphical stunners, there are stacks that'll have you waggling your stick into the small hours.



Classic games don't come any more classic than *Donkey Kong*, and this conversion is a real corker!

CLASSIC CONVERSIONS

One of the best things about the PD games scene is that you can get your hands on all those old classics that no commercial developer will convert. In a lot of cases, there are many different versions of the same original game, so you can find the *Defender* clone that suits you down to the ground! On with the show...

DONKEY KONG

This is a game and a half. The original platform game, the one that introduced Mario to the world, has come across to the Amiga almost perfectly. Bignonia have carried out the conversion, and paid great attention to all the little details of the old coin-op, so the gameplay is pretty much identical.

You get the original four levels, plus an extra one if you can collect all of the bonuses on the other levels. This is such a close copy that the only difference I can find is the trick about waiting at the top of the ladder with your hand just touching the girder, which should stop anything coming down on top of you. Now that's pretty picky I'll admit, but as that's about the only difference, it just shows what a good job the Bignonia boys have done. Excellent, essential, and all that stuff.

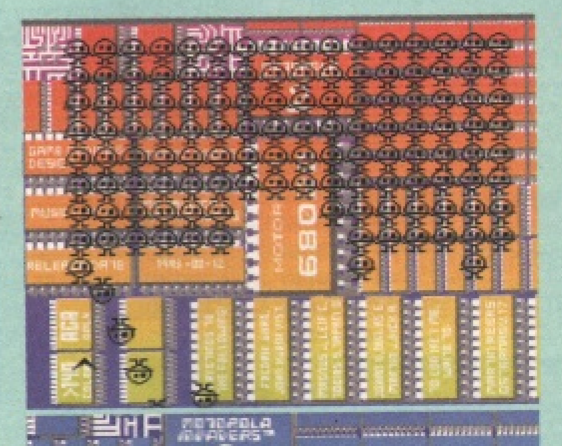
Ground Zero, no. G169

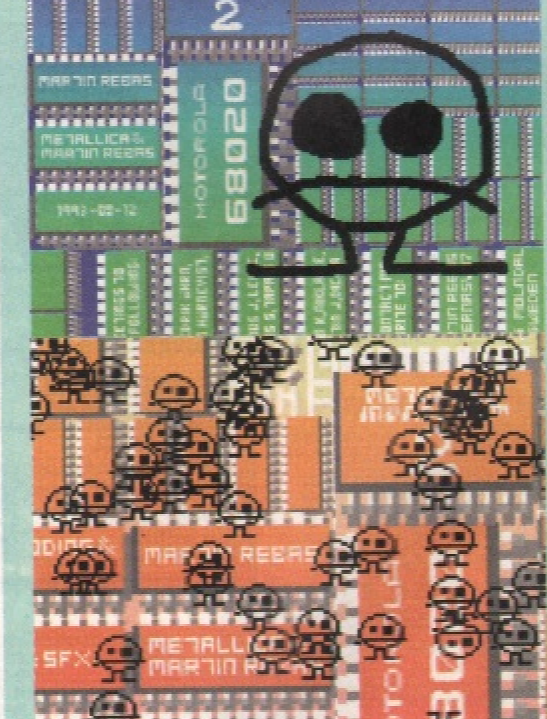
POPEYE

Another conversion from Bignonia, this is a carbon copy of the C64 conversion of the coin-op (of the cartoon, of the comic etc...). The original was a three-level platform game, but this version has an extra one thrown in for good measure.

As with all of these old coin-op conversions, the graphics are tiny, and the sound effects are merely blips, but the gameplay is still there. It's not in the same league as *Donkey Kong*, but that's just down to the original game. The conversion is spot on, so fans of the original should get their copy without delay.

Cynostic, no. G0206.





SPACE INVADERS

MOTOROLA INVADERS II

AGA

A more frantic alternative is Motorola Invaders. It's an AGA-only game, and makes use of the extra speed, memory and colours of the A1200 and 4000 by using loads of sprites, colourful backdrops and a massive sampled soundtrack sampled from Metallica.

Unlike the old *Space Invaders*, these fall from the sky when you shoot them, and kill you if they hit you. Instead of lining up in neat rows, waiting to be shot, they begin swarming around the screen like flies, gradually getting closer to the ground. Once you've cleared one lot, they regroup into a new formation, and come at you again, and again, and again. Metal fans will go for the excellently sampled soundtrack, and anyone else who likes a good hard zap should find enough to get stuck into.

Cynostic, no. G0211

AMOEBA INVADERS

For real Space Invaders action, this is the only choice. The gameplay is virtually identical, and so are the graphics. For once the programmers have got the alien sprites exactly as they were in the old coin-op - even the spaceships are just the same.

It's one of those conversions that lets you use nearly all your old tricks, like picking off the invaders from the top first, and leaving one in the end row to speed things up. The sound effects are a little different, but just as good, with a nice bassy noise when you shoot an alien. Very nice indeed.

17 Bit, no.71



GAMES

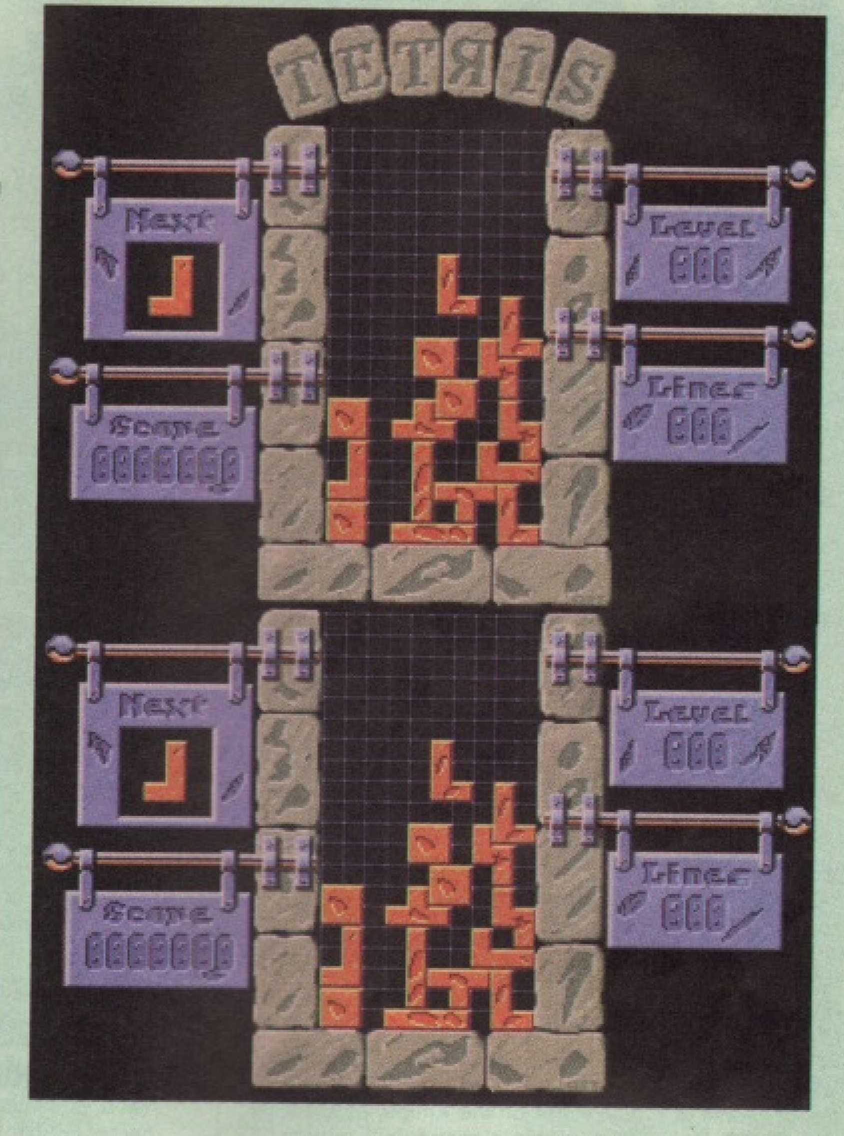
TETRIS GAMES

GIGER TETRIS

Tetris spruced up with HR Giger artwork is what we've got here. Unfortunately there doesn't seem to be joystick control option, and playing it from the arrow keys is a bit on the awkward side. The backdrops are nice, and the music is different – a fairly realistic sounding classic piece, which is probably quite nice if you like violins and that.
Virus Free PD, no. TET13

TETRIS PRO

This one's the better of the two, not only because it has joystick control, but also because of the handy feedback you get from the sound effects. It's all nice and clear, so you're never in two minds as to whether that block is lined up exactly over the gap. The grid on the background helps keep it all nice and neat.
Virus Free PD, no. TET07



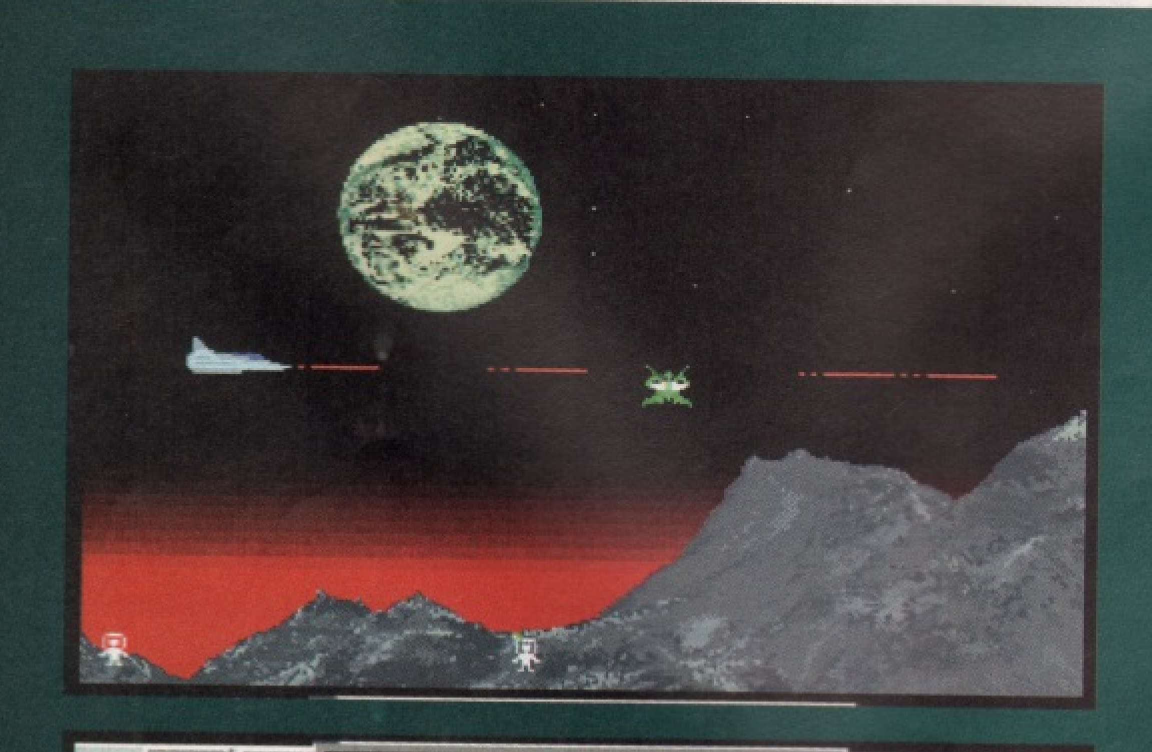
KARATE WORM

This rates about 8 out of ten on the stupidity factor. The title suggests it's a bit strange, and that it certainly is.

You take control of Karate Worm, in a kind of pink and wriggly cross between Manic Miner and a Bruce Lee film. Being rather deprived in the old cranial region, Mr Worm has only managed to master one move: the flying kick. However, armed with this one deadly blow, you have to clear each screen of lesser karate worms, whilst avoiding the nasty green crawly things. If this was Radio 1, I'd probably describe it as "absolutely bonkers mate!", but this isn't radio one, so I won't.
Diskovery PD, no. G231

SYSTEM 4

Very professionally presented, this is an excellent variation on the *Q*Bert* theme. As in the old coin-op, the idea is to bounce around the isometric 3D screens, filling in all the squares by touching them all. Nasty bouncing aliens are out in force to stop you. That's about it for the gameplay, but even though it's an extremely simple game, the different level designs help to keep the interest level up. There's a good arcade-like feel to the whole thing, and the two-player mode can only extend its appeal further still.
Ground Zero, no. G162



DEFENDER CLONES

SYSTEM DEFENDER

Quite possibly the fastest version around, *System Defender* expands on the sparse graphics of the original with some full colour backdrops. The gameplay remains intact, with most of the main features in evidence (although you can't kill the little humanoids yourself). One of the best looking choices, it's one for the more visually-stimulated gamer.
Mediasource no. n/a

OBLIVION

This one scores highest when it comes to sound effects, speed and a big laser effect like the coin-op. The screen is nice and big, maybe too big in fact, because it also scrolls vertically as well as horizontally, although not too much. It can be just enough that you loose sight of the mountains at the bottom, and don't have any background to judge your speed by. Apart from that, *Oblivion* is probably the most complete version of *Defender* can lay your hands on.
17 Bit, no. 2364

GAMES CONT.



HELLZONE

Decent PD shoot 'em ups are pretty hard to come by, so it's a real treat when something like *Hellzone* crops up. Based on games like *R-Type*, it's a mean right to left scrolling zapper that runs at a smooth 50 frames per second.

It's got all the bells and whistles: plenty of weapon upgrades, snaking alien attack formations, lots of different enemies to splat, spooky levels and booming sound effects. Gameplay-wise it's pretty hot too – far from easy, but not so difficult as to be overly frustrating. Good stuff.

Ground Zero, G193



BOUNCE AND BLAST

Now this really is something a bit special: a real commercial quality game doing the PD rounds. Okay, you wouldn't expect to find it selling for £25, but it's easily up to the standard of a lot of budget games.

It's a standard horizontally-scrolling platform game in the Mario mould, with some excellent colourful sprites and backdrops, and lots of varied levels. There are some irritating flaws in the level design (such as the way you can't avoid taking hits in order to shoot the baddies), but for the price of a disk, this is superb value.

Ground Zero, G183



LCD DREAMS

A quaint trip back to the days of LCD games, this disk has conversions of four of the better known hand held games: *Fire*, *Octopus*, *Oil* and *Parachute*. The games have gained colour in the conversions, but other than that they're almost identical. For added authenticity, you can play with the keyboard, just as you used to with the little buttons on the originals. Well worth a shot for anyone with a sense of humour.

17 Bit, no. 2356.

GNU CHESS

Chess games are pretty rare on the Amiga, especially ones that feature menus of the moose family in their names. Unfortunately for wildlife fans, there seem to be no Gnus at all in this game, but at least the chess has been pretty well done.

There's no messing around with the keyboard for this one – it's all controlled from the mouse. Just click on the piece you want to move, then click on the destination square, select Go! from the menu and that's all you need to do. The computer skill levels are based upon how much thinking time it gets, so if you have enough patience, it can play quite a mean game.

Ground Zero, no. G2222

TRANSPLANT

This has to be the best shoot 'em up in the public domain. As usual, it's pretty basic as far as gameplay goes, but it doesn't half play well. It's a bit like *Asteroids*, but instead of your ship flying around the screen, the whole play area revolves around your ship. This calls for some nifty manoeuvring on your part, as you keep track of the aliens at all times via the scanner that's overlaid on the middle of the screen. You're never short of firepower, and the aliens come at you thick and fast. To cap it all, everything runs really smoothly. This has everything a good zapper should (including a simultaneous two-player mode), and should not be missed on any account.

ALPHA PD, no. 138

ICE RUNNER

Anyone who remembers *Lode Runner* will be instantly at home with *Ice Runner*. The graphics have improved since the monochrome stick men of the original, but the gameplay is still pretty much the same.

The idea is to rid the level of all the aliens. To do this, you need to hack holes in the ice with your axe, and then entice the nasties to fall into your traps. Once you've got them all, a ladder appears as if by magic to take you off to the next level. It's quite a bit easier than the original, and the graphics are a lot bigger, so it'll probably go down well with the younger gamers.

Ground Zero, no. G216.

WIBBLE WORLD GIDDY

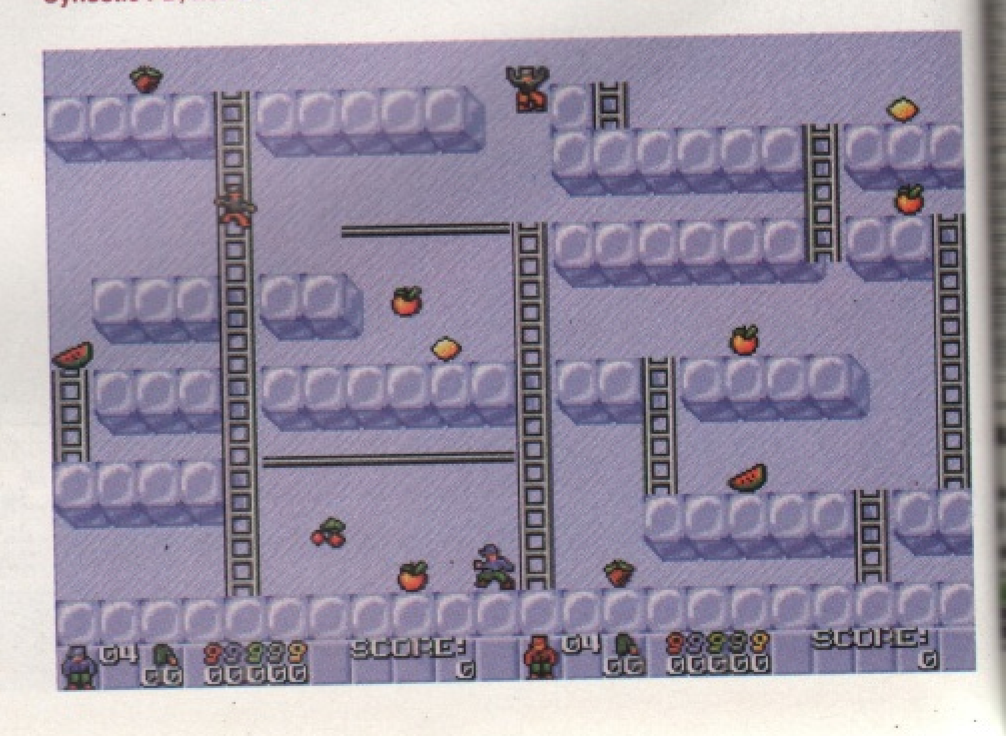
Yet another commercial-quality platform game, *Wibble World Giddy* borrows ideas from the *Dizzy* series, resulting in a very slick arcade adventure.

Giddy himself is a blob with massive hands, who walks around Wibble World with a constant grin on his face. Around the Beano-style parks and streets, you'll come across Ninja Turtles, spiders and seagulls, all of which are out to get you. However, you will find some friends, and it's these that you'll need to help in order to get through the levels. Brilliant cartoon graphics and smooth animation round off one of the best PD games available.

Cynostic PD, no. G0112.

ASSASSINS COMPILATIONS

Special mention must go to the Assassins games compilations. They were up to volume 128 at the last count! On average, each single-disk volume contains three games, so that's nearly 400 games in the collection! Assassins disks are available from most PD libraries, such as PD Soft for example.



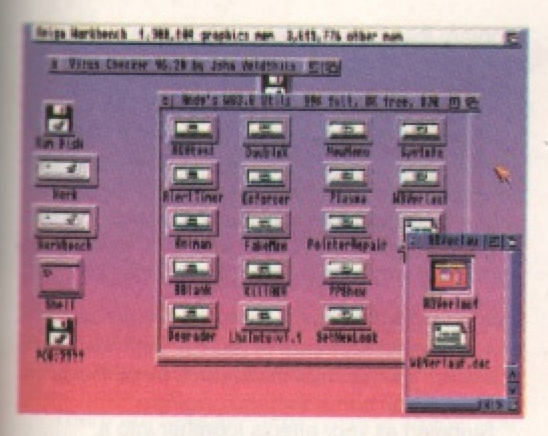
UTILITIES



Revisit all your old favourite Spectrum games with the excellent Spectrum Emulator.



There are thousands of handy little utilities available in the public domain. Many are very small programs that take up little disk space, so utility compilations are popular. Others are full-blown programs that for one reason or another are not available from the commercial sector. Whatever your Amiga's software problem, there's bound to be a PD utility that sorts it out.



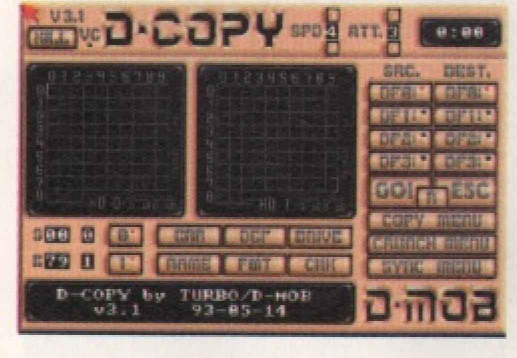
ANDY'S WB3 UTILITIES

If you've recently got yourself an A1200 or 4000, take a look at this collection of 17 predominantly AGA-specific utilities.

AGA Test is a tool to check that all your AGA screen modes are working as they should. Newmenu gives your menus a 3D look to match the windows and icons. Sysinfo 3.15 tells you everything you need to know about your computer's attached hardware, speeds and all kinds of other handy info. Alert Timer lets you alter the timing of your software alerts. Enforcer checks for illegal memory access. Plasma generates 256-colour blobbly patterns. WBVerlauf gives your Workbench screen a very smooth graduated colour backdrop. Animan is a very clever voice-recognition program that allows you to enter CLI commands from a microphone connected to a sampler cartridge. Fakemem turns all but 512K of Chip RAM into pseudo Fast RAM. Pointer repair lets you use different resolution pointer graphics. BBlank turns off the screen border. Kill AGA reverts to the original chipset without you having to reset. PPShow displays Powerpacked IFF graphics. Degrader attempts to revert your Amiga to an older version for compatibility. LHA Intuiv 1.1 is a script that controls LHA from windows instead of CLI.
17 Bit, no. 2622

D-COPY 3.1

D-Copy 3.1 is a simple but effective disk copier. Once loaded, there's an absolute minimum of disk swaps needed (unlike copying with Workbench). Single tracks on specific sides can be copied, or you can just do the whole disk. Three types of nibble copy are also included to help you back-up copy-protected disks.
17 Bit, no. 2634



LEGAL TOOLS 96

LSD compile regular disks of utilities. Number 96 in the series has another 11 CLI-launched utilities on offer: Amigabase (a database), Clock Guardian 3.1 (a clock monitor), PC-Task demo, TD Patch 1214 (a PC Task tool), Promotor (AGA mode promotion), Seepix (an IFF viewer), XPack (CLI xpk.lib access), Smart Play (a module player), Leaves Slow Fast (another PC Task tool), Register (PC Task registration), and Promotor Register .
17 Bit, no. 2654

SPECTRUM EMULATOR 1.6



It might sound like a joke, but this is for real! It's a Spectrum Emulator, and it works! You can do everything you can on a real Spectrum, and that includes typing in BASIC programs. You can load your old Spectrum games through a sampler cartridge, or play the ones provided on the second disk (*Skooldaze, Green Beret, Fairlight, Batman, Dark Star, Trashman, Beachhead, Nightgunner, Spectacle* and *Thrust*). Even if you just get it for those classic games on the second disk, this is well worth the price of a couple of disks. This version even supports joystick control (emulating a Kempston interface), and it's got sound too! Brilliant!
Virus Free, no. 3465 (1) + 3465 (2)

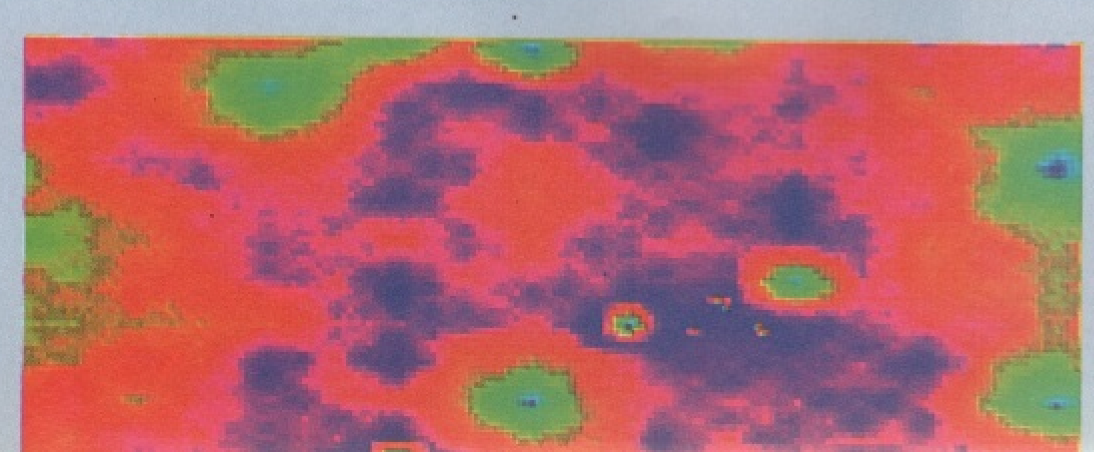
THE MUSIC ENGINE

With all the different trackers available in the public domain, getting modules written with one program to load into another can be a problem. The Music Engine gets around the problem of playing modules from various sources by having an intelligent loader that can automatically detect whether the module was written with *OctaMED, Sonix, Soundtracker, Protracker, SIDMon, Future Composer, Noisetracker, Deltamusic, TFMX* or *JAM Cracker*. It can also load and play Powerpacked modules.
17 Bit, no. 2046

THE SUPERKILLERS

With a library of 316 virus antidotes onboard, The Superkillers is about the best protection you can have from destructive boot viruses and trojan horses. If you're unsure whether you have a virus on some of your disks, this is almost bound to let you know one way or another.
17 Bit, no. 2512



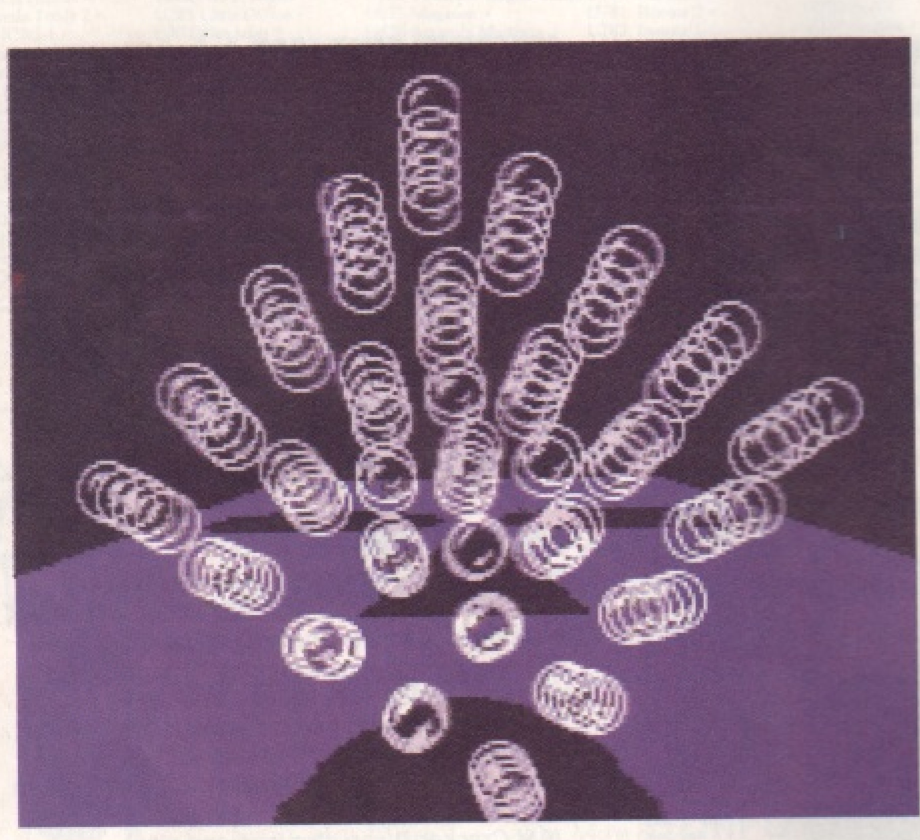


Utilities aren't just there for the nasty things in life, like a blocked drain or a leaky roof, you can make pretty patterns with them too!

DO IT YOURSELF

One of the great things about PD is that absolutely anyone can develop a piece of software, and release it into the public domain. Even if you have have no programming knowledge at all, you can still create your own demo, music disk, game, slideshow, multimedia presentation or whatever takes your fancy. All you need are the right tools and a good idea, and you could be the public domain's next big thing.


The ever-popular AMOS is ideal for the more adventurous DIY PD enthusiasts.



TOOLS OF THE TRADE

Whatever kind of software you decide to produce, there are a few basic tools you're going to need. The first thing to sort out is a paint package. Even if you don't intend to include loads of flashy graphics, a paint package is always handy for designing icons, title screens and so on. *Deluxe Paint* is the ideal choice, but if you can't stretch to that, you can get by with something like *Ultra Paint* (see the Graphics section in this booklet for more info).

Then there's a text editor. Workbench comes with a text editor called ED, which is very basic on the 1.3 Workbench disk, but has since been updated to include menus, making it a lot easier to use. You'll need something like this to create the "README" files on your disk, in which you can put any notes and messages about the disk.

For games and demos, you could really do with a sampler, or at least a sample editor. The sampler isn't essential, but if you have a sample editor, you can customise your own sound effects from existing IFF sample files in the public domain.

An alternative copier is also very handy. The copier included with Workbench is a pain to use if you only have one drive – something like *D-Copy* will greatly speed up your disk duplication. These are the absolute basics, but unless you can program in C or Assembler, you're also going to need one of the following software development packages.

DEMOMAKER

This isn't actually PD, although most PD libraries (unaware of this fact) stocked it until fairly recently. It's still available from a few of the smaller PD libraries.

As the name suggests, *Demomaker* is a program that lets anyone create their own super-slick demos. It includes all the clever code for impressive effects such as plasma, 3D zooming text, bobs, sinewave patterns, vectors and loads of variations on the spectrum analyser trick. All you need to do is design your graphics with your paint package, write a tune with a tracker, and design your effects from the main *Demomaker* program.

Each of the many built-in effects is variable in a number of ways, so by adjusting things like speeds, colours, sizes and so on, you can come up with almost an infinite number of new effects. If you can't be bothered to design your own graphics, you can use the sprites, fonts, logos and bobs that come with the program.

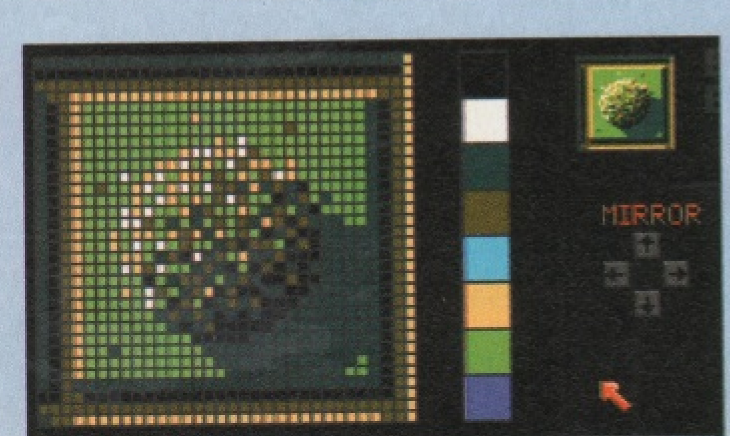
Stringing all your effects together into a coherent sequence is simply done. Each effect has a time parameter, which determines how long it'll stay on the screen before moving on to the next one in the sequence. If you use this well, you can even make your own synchronised audio-visual demos, with the graphics changing in time with your *Soundtracker*-created music. Your final demo can then be saved out to an autobooting disk, ready for distribution around the PD network.

TRACKERS

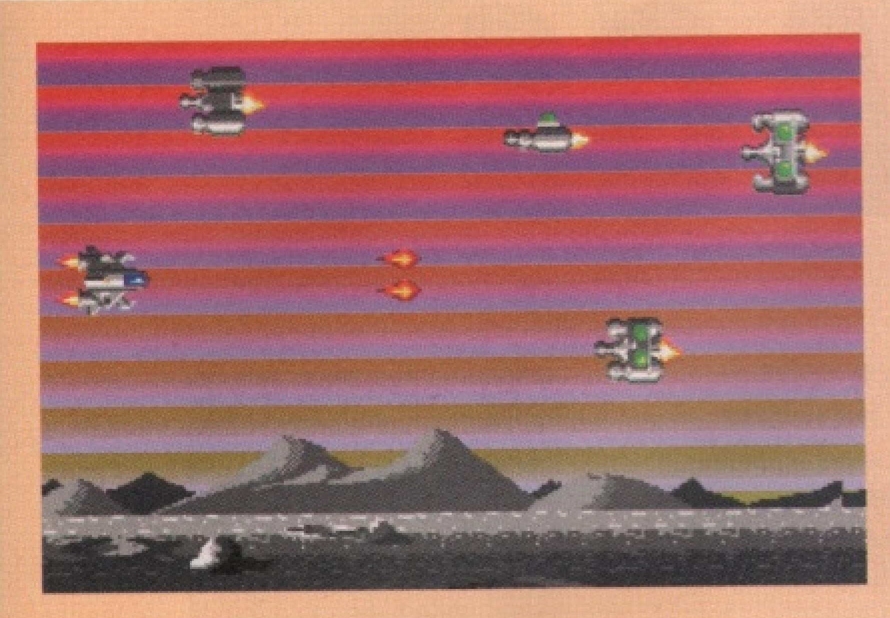
A tracker of some sort is essential if you're writing a demo, and at the very least is handy for game development. If you want compatibility with things like *Demomaker*, you're best going for *Noisetracker, Startrekker* or *Protracker*. Otherwise it's worth taking a look at *OctaMED*.

Any of these can be used to create music demos. If the tunes themselves are good enough, they'll stand up on their own, so loads of flashy graphics aren't essential. To make a simple music demo, all you need to do is get something like Menumaker (see Utilities section), and set up a few buttons to play your tunes. Remember to include the player program that came with the tracker, and that's all there is to it.

DIY



It's so easy, even a novice can create an original shoot 'em up with SEUCK.



AMOS

Another superb bit of development software that appeared on a CU AMIGA coverdisk (April 93) is AMOS. It's based around the programming language BASIC, but whereas BASIC is no use at all for writing games or demos, these are exactly the areas in which AMOS specialises.

You will need some programming experience if you want to dive straight into AMOS. Anyone who has used BASIC will have little trouble getting to grips with it though. All of the normal BASIC commands are here, but what makes AMOS special are its sound and graphics commands. These allow you to move sprites, bobs and backgrounds about the screen with relative ease. There's also support for just about every soundtracker you could think of, including *MED, OctaMED* and *GMC*.

Many a decent PD game has been written with AMOS, but it's not limited to game development. Serious software also benefits from its power – the excellent *SuperSound* for example (see Music section) was created with AMOS. Unless you plan to get into C or Assembler, this is the next best thing. Used in conjunction with the AMOS Compiler, it's a very impressive package indeed. Remember though, this isn't PD!

SHOOT 'EM UP CONSTRUCTION KIT

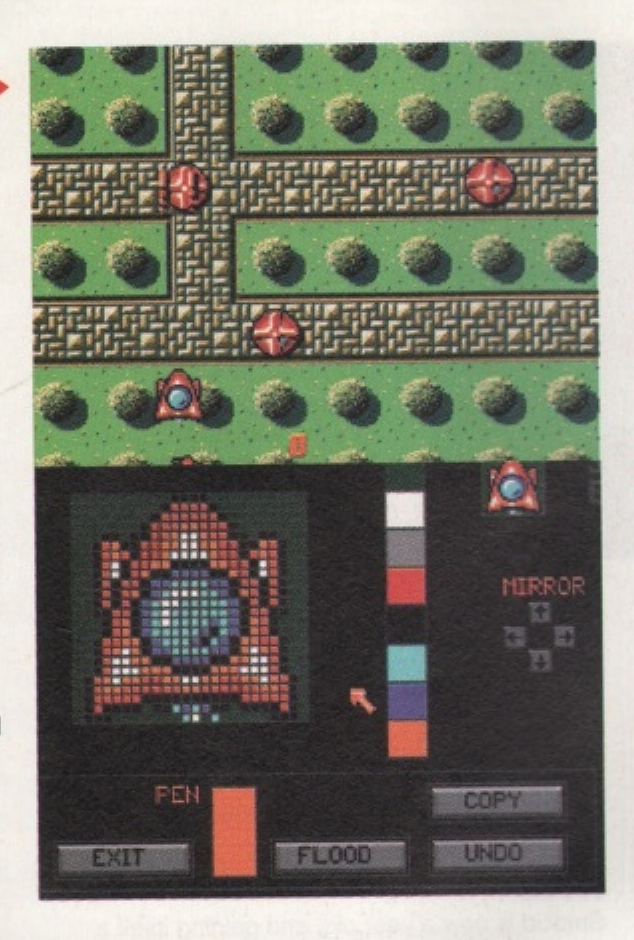
Probably the most powerful game creator there is, the *Shoot 'Em Up Construction Kit* (*SEUCK*) is a gamer's dream come true. Everyone has at least one game idea knocking around in their head, but without the programming knowledge to put it into practice, it never gets any further than the imagination. With *SEUCK*, you can put all of those ideas into practice.

Absolutely no programming experience is needed for this. In fact, you don't even need any of the aforementioned text editors or paint packages – everything you need to create your ideal shoot 'em up is included on the two disks.

There are basically three types of zapper you can write with *SEUCK*: a vertically scrolling game along the lines of *Xenon II* or *Spy Hunter*, a static screen game that could resemble anything from *Beserk* to *Galaxians*, and a "push-scrolling" game such as *Commando*.

The best way to figure out how it works, is to load one of the demonstration games, and tinker around with its sound, graphics, attack waves and other parameters. The main areas are selected from a system of menus. These then lead to sub-screens, from which you can design your sprites, animate them, draw out their flight paths, and stick them anywhere on the level maps. You can also build up your own backgrounds and define the size, scrolling speed and length of all your levels. Each object has its own definable characteristics, such as speed, fire-rate, strength, points, sound effects, animation and so on.

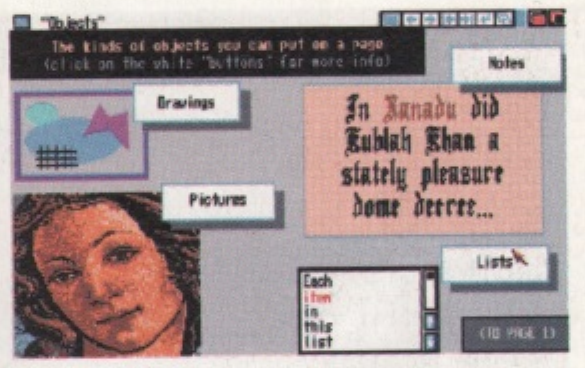
Simultaneous two-player games are easily created, and once you've polished off your creation, the program will save it out neatly onto a bootable disk. There is simply nothing else that can touch *SEUCK* for ease of use. And it's available at a budget price from Gremlin's GBH label as well. Can't say fairer than that, can we?!



HOW TO RELEASE YOUR PD

This couldn't be easier really. There are two main ways you can get your creation out onto the PD circuit. The first is to upload it onto a bulletin board via a modem, and the second is to send it to a PD library. Simply sending a disk to a library doesn't guarantee that it will be added to their collection, as most have some degree of quality control, but if it's good enough, it'll be added to the list.

Before you do this, there are a few things you should remember. State somewhere on the disk that it is freely distributable. If you don't want greedy PD libraries charging over the odds for your disk, you must state a maximum price that it can be sold for. If you want feedback from users of your software, include your address on a document or contacts screen. Finally, make quite sure that all of the program code, graphics, sound and anything else on the disk is your own creation, or existing PD, and that's it!



HYPERBOOK

For the more serious PD disks, it's worth considering *Hyperbook*, which was given away free with the June 93 issue of CU AMIGA. It's a very intuitive program that allows the creation of multimedia presentations, and general front-ends and menus for other programs.

Using a very friendly system of icons and menus, *Hyperbook* has all the tools you need to create your own point-and-click interface for just about any application you can think of. You can use it as a simple text reader and picture viewer, or create complete (hyper) books with it. The possibilities are endless, but the most obvious include things like disk magazines, program selectors, educational presentations and so on. If you have a 2.04 or higher Amiga, you can make use of the ARexx support, and attach certain buttons to ARexx scripts.

Whatever you come up with, it's bound to look very professional, and with the icon-orientated system, it's almost impossible to create anything that isn't very user-friendly.

Hyperbook offers you another simple way of creating your own professional-looking PD productions.

"Drawings"

Drawings

Drawings are graphics that *Notebook* lets you create directly on the page. Drawings are composed of individual *shapes*, which you can move and resize independently. Once completed, the entire drawing can be moved anywhere on the page and scaled to any size. The individual shapes can be re-edited again at any time. Drawings can be used to add boxes, underlines, or any graphics at all to your notebooks.

DISK MAGS

Disk magazines are the voice of the PD network. Much quicker and cheaper to produce, magazines on disk are also far easier to distribute, making their way around the globe through phone lines and PD libraries. Covering a vast array of different subjects, the ever-growing band of diskmags cater for just about every Amiga user. Check out our selection to find out which is best for you.



AM/FM

AM/FM stands for Amiga Musician's Freeware Magazine. It's edited by Bjorn Lynne, who contributes articles and soundtracks every issue. Articles include reviews of new music software and hardware, album reviews, tutorials, opinions, profiles of pop stars and bands, and tips on using existing music software and hardware.

Along with the articles, you also get a selection of tunes. These are picked from readers entries, with originality being the main criteria, so you're guaranteed to hear some interesting stuff. Whenever possible, PD sound and music utilities are included too. The interface was written by Teijo Kinnunen (the programmer of *OctaMED*), and pulls the whole thing into an accessible order. Supplementary disks are released fairly often, which can be devoted to samples, utilities, or anything else that the AM/FM team think is of interest to the readers. This makes a good read for anyone into Amiga music.
Cynostic.

GRAPEVINE

This is the number one "scene" mag. It's put together by Pazza and Shagratt of the coding team LSD. A lot of the articles are about various topics being raised on the demo and hacking circuit, most of which is written in coder-speak, with countless references to "lamers". For coders, these scene-related debates and articles can be interesting, but others may not find them such a stimulating read. However, there are also tons of articles about all manner of subjects that have nothing at all to do with the Amiga. Most of the mag is written by the readers, which is a nice way to do it, as this means you get a wide range of opinions and viewpoints. Flipping through the hundreds of articles is easily done, thanks to a neat and simple interface. Issues normally come on three disks, and as you can imagine, there's always plenty to read.
17 Bit.

SUICID

Suidcid is now a year old, and gaining itself a substantial following. Along the lines of Grapevine, it's a mag produced by characters from the demo scene, with over 100 articles on just about everything under the sun, plus some bits about the scene itself. The producers are quite proud to have recently roped in the much-respected Red Sector Inc. team to spruce up the appearance of the mag, and add some opinions of their own. Once again, lots to read for the bob-copper-plasma-zoom fans.
Mega PD.



THE FINAL FRONTIER



You guessed it, this disk mag is devoted to the Star Trek. It's a bit of a big 'un – issue five comes on four disks. For Trekkies, it's a little goldmine of trivia, chat, news and graphics. It's a haven for many of the 3D renderings of the Enterprise that keep coming out the woodwork, and there's always plenty of lively debate on everything from what brand of hairspray Kirk uses, to the maiden name of Spock's great auntie.

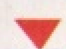
If you've missed out on a recent convention, you'll usually be able to catch up on what went on through the coverage in the mag. This will include digitised photos and accounts from those who did get to attend, and it's not uncommon to find quotes and interviews from the Star Trek cast. No Trekkie should be without a subscription.
Cynostic.

CHANNEL Z

The first A1200-specific disk magazine, Channel Z is a combination of articles and software. It's written from the point of view of a user, rather than a coder, which is good as it doesn't alienate beginners and the less technically knowledgeable.

The first issue is a bit short on features, which is understandable, as it didn't have any readers until now!

Even so, it's bound to create a great response from coders and general A1200 users alike, many of whom will want to voice their opinions on different aspects of the machine. On the software side, there's the excellent Retina Euro 1 demo that was included on a recent CU AMIGA coverdisk, another hardcore soundtrack, a couple of strangely non-AGA specific pictures, a little AGA intro demo, Sysinfo, Fakefast Mem, Degrader, B Blank and The Disk Ute. This could be the start of something big.
NBS.



MAGS



CONTACTS

Want to know where you can get hold of the disks you've been reading about? Here are some handy order forms and a list of some of the many PD companies operating in and around the UK. After ringing the company concerned to make sure of a disk's availability and price, just fill them in and send them off with a cheque or postal order.

While every attempt is made to ensure that the information we've printed in this guide is correct, obviously details can change. Please bear this in mind when ordering. Also, we'd like to point out that CU Amiga and Amiga Guide can in no way be held responsible for the non-fulfilment of orders by the companies listed on this page. To the best of our knowledge, all are professionally-run businesses who will endeavour to fulfil orders as speedily as possible.

PD LIBRARIES. The following companies are well-established libraries. Most of them stock a comprehensive range of disks and we've included their phone numbers so you can check the price of disks and Amiga compatibility before ordering.

17 Bit Software
1st Floor
2/8 Market Street
Wakefield, WF1 1DH
(Tel: 0924 366982)

Alpha 2000 PD
124 Kings Cross Road
Halifax
West Yorkshire
(Tel: 0422 345409)

Amigos
14 Windsor Road
Wanstead, London
E11 3QU
(Tel: 081 989 4357)

RBF Software
12 Hinkler Road
Thornhill
Southampton.

Blue Rose PD
33 Glenmore Walk
Hilden
Lisburn
N Ireland
BT27 4RY

Crazy Joe's PD
145 Ettingham Street
Rotherham,
South Yorkshire,
S65 1BL
(Tel: 0709 829286)

Cynostic PD
Office O1
New Enterprise Centre
Little Heath Ind Estate
Old Church Road
Ceventry
CV6 7NB
Tel: 0203 613817

Deja Vu,
7 Hollinbrook
Beech Hill, Wigan, Lancs
WN6 7SG
(Tel: 0942 495261)

Diskovery
108 The Avenue
Clarton, Bradford
West Yorkshire
BD14 6SJ
(Tel: 0274 880066)

Galactic PD
10 Crugan Avenue
Kinmel Bay
Clwyd
North Wales
LL18 5DG

Ground Zero
4 Chandes Road
Redland
Bristol,
BS6 6TE
(0272 732978)

Graphic FX
PO Box 69
Manchester
M21 2BN

KBE Software
12 Salters Close
Warrington
Stoke on Trent
Staffordshire
ST9 0DB

Mega PD
78 Tottenham Green
Basildon
Essex
(Tel: 0268 559164)

Mediasource
PO Box 4
Bangor
BT19 6UP

NBS
1Chain Lane
Newport,
Isle Of Wight
PO30 5QA
(Tel: 0983 529594)

Neon Software
106 Bordesley Road
Morden, Surrey
SM4 5LT
(Tel: 081 6467751)

Pentire
10a Hayhill Lane
Taplow, Maidenhead
Berks, SL6 0JH
(Tel: 0628 666641)

PD Direct
86 George Street
Newcastle, Staffs
ST5 1DN
(Tel: 0782 715255)

PD Soft
1 Bryant Avenue
Southend-on-sea
Essex, SS1 2YD
(Tel: 0702 466933)

Pro Disc PD
81 Middleton Hall Road
Kings Norton, Birmingham
B30 1AG
(Tel: 021 475 8007)

South Lincs PD
10 Linden Rise
Bourne
Lincolnshire
PE10 9TD
(Tel: 0778 393470)

Seasoft
The Business Centre
First Floor
80 Woodlands Avenue
Rustington
West Sussex
BN16 3EY
(Tel: 0903 850378

Strictly PD
11 York Place
Brandon Hill, Hotwells
Bristol, BS1 5UT
(Tel: 0272 250992)

Systec PD
2 Ridge Road
Letchworth,
Hertfordshire
SG6 1PN
(Tel: 0462 684372)

Valley PD
PO Box 15
Peterlee, Co Durham
SR8 IN2
(Tel: 091 587 1195)

Virus Free PD
22 Elborough Road
Moredon, Swindon
Wiltshire, SN2 2LS
(Tel: 0793 512321)

Visage Computers
18 Station Road
Ilkeston
Derbyshire
DE7 5LD
(Tel: 0602 444501)

Wack PD
48 Emerson Lane
Middlesborough
Cleveland, TS5 7GA
(Tel: 0642 817107)

Your Choice PD
39 Lambton Road
Chorlton
Manchester
M21 1ZJ
(Tel: 061 881 8994)

PD ORDER FORM

Name: ____________________

Address ____________________

Please supply your PD catalogue/list:

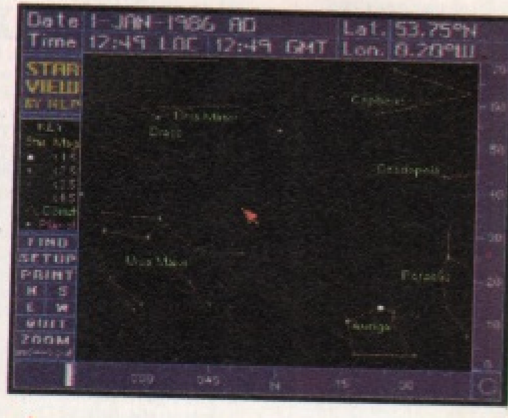
Please supply the following disks: ____________________

I enclose a cheque for £ ____________

Please send me my disks as quickly as possible.

ODDITIES

Because PD authors don't have to justify their creations with profits, they're free to release whatever they like, however obscure or off the wall it may be. It's these highly specialised or even useless bits of software that you'll find here – simply because they refuse to be slotted into any neat pigeon holes. Enjoy...





LEMMINGSBENCH

At first this looks like a Workbench that's been tampered with. Then it looks like a new level of Lemmings. Then, the mouse pointer starts moving around on its own. It opens up a Lemmingsbench disk icon, and loads of little Lemmings come pouring out. Sooner or later, with a bit of teamwork, they work their way into the Home icon in a window at the other side of the screen. Weird stuff.

NBS, no. P124

ASTRO 22

Astrologers will be interested in Astro 22, which calculates the position of the planets, cusps and zodiac positions to within 30 minutes of an arc. It does this with the help of an attractive star chart, and lots of menu options that I won't pretend to understand. Boring your friends will never be the same again!

17 Bit, 2594

STARVIEW

We've just had astrology, and now we've got an astronomy program. What it does is pretty clever: you enter the time, date, and your current longitude and latitude settings according to where in the world you are (or where you would like to view the stars from). The program then has a little think, consults its book of stars, and plots out exactly what you'd see if you were to look skyward on a clear night at that time and place.

Rather than just filling the screen with dots, it highlights notable constellations and any visible planets. You can then "turn your head" from side to side by scrolling the view from left to right. If you feel the need to pick out a particular constellation, you can enter the Find mode. This gives you a list, from which you pick your constellation. If it's visible from the current spot, it picks it out for you. This is a must for all budding Patrick Moores.

PD Soft, no. V1109.



COMMUNICATE

Far from useless, this is a very well-produced piece of software that aims to teach you eight methods of communication without speech. The eight "languages" included are: two-handed sign alphabet, deaf-blind sign alphabet, one-handed sign alphabet, braille, semaphore, flags, Morse code and naughts & crosses code.

Clear simple graphics are used for the sign languages, with animation where necessary. You can get the program to show you the sign for any letter of the alphabet, sign out a complete sentence, or even read a document from disk. You can also turn the tables, and get the computer to make a sign, which you then have to translate. The same system is used for all of the other languages. This is a most impressive program, and one that should have a place in every school.

Your Choice PD, no. n/a

ECOLOGY

Everything you ever wanted to know about ecology, but didn't really want to know after all. No, sorry, this is actually a rather nice three-disk book/presentation type thing created with *Hyperbook*. It could do with more graphics, but what's there is nice.

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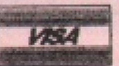


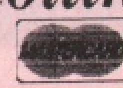


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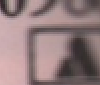
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AMIGA Workshop

ISSUE 11

NOVEMBER 1993

Do not adjust your magazine. Yes, we know the following 32-pages are printed on something akin to toilet paper, but if you can ignore that necessary economy, you'll also discover that these pages are absolutely packed to the spine with all sorts of useful step-by-step guides and tutorials on some of the most popular programs to appear on the Amiga. What's more, you'll also find our all-knowing Q&A section, where readers' problems are answered by our in-house experts, and the always-controversial letters pages. Take it away.

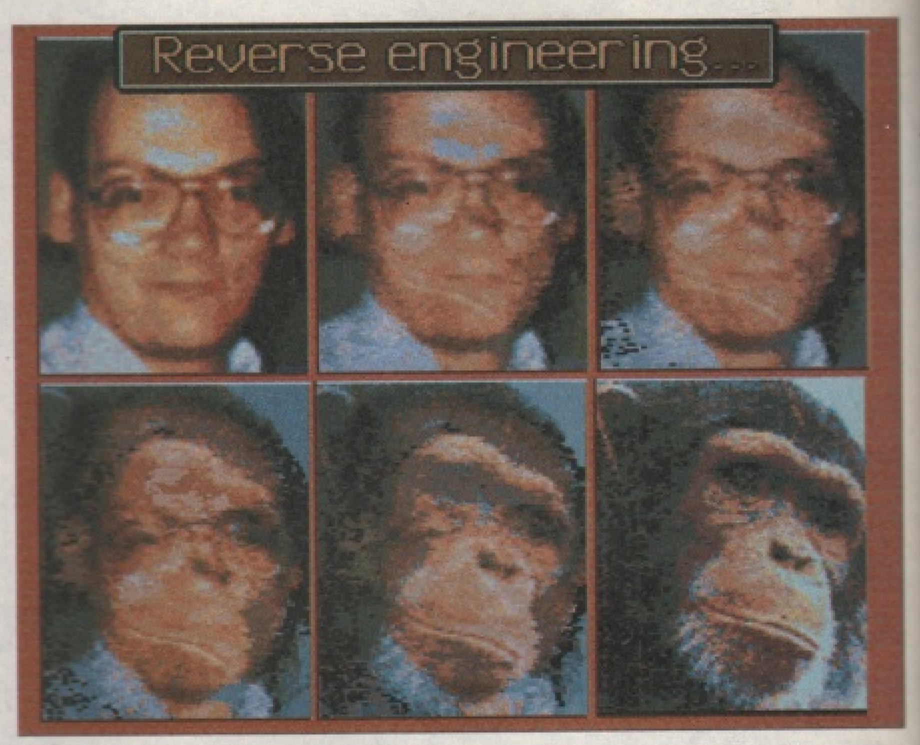
DELUXE PAINT TUTORIAL

PART 10

Throwing various *Deluxe Paint* ingredients into the melting pot, Peter Lee comes up with a movable feast for Amiga artists. This month's tutorial ingredients include some hot stuff – and we don't just mean Sherilyn Fenn or Cher...

We have been examining every facet of *Deluxe Paint* over the past eight issues. It has been like all the pieces of a jigsaw falling into place; once you know how to control the basic functions, you can link them together to increase the program's power tenfold – and at the same time make your artistic dreams spring to life.

This month, we'll be continuing our tutorial, featuring animation control and brush morphing. We'll also show you how to use both these features for excellent results.



Now it can be told. Here's a neat and nasty trick using the Brush/Metamorph option in which a handsome, debonair, articulate and, shall I say, hirsute chap is turned into.... me. Life makes a monkey of us all.

MORPHING

Like Tony Hart's little plasticine pal Morph, *DPaint IV*'s morphing facilities let you change one thing into another. *DPaint* takes one brush, and over a number of user-specified frames, converts it to another brush image stored in memory. Sometimes it works brilliantly, other times not. But it's always worth experimenting because the effect is so powerful and packs such huge impact in an animation. Morphing creates an new Anim brushes each time, so make sure your current Anim brush is saved if you want to use it again, otherwise it will be replaced.

To execute a morph, you must have a custom brush. There is a limit to size/resolution/colours of this brush, so try not to be too ambitious as it is annoying to keep getting 'brush too big' messages. Remember, *DPaint* has to keep both brushes in memory, as well as any animation frames you may have, and it also needs some workspace and room to keep any new Anim brush frames it will create.

Once you have selected a brush, you can access the Brush\Spare\Brush->Spare option. This makes the current brush the spare one. With this safely tucked away in memory, you can now clip out a different brush image. To ensure a smooth transition, this brush should be around the same size and use the same colour range as your first brush. Once you tell *DPaint* to create your transition by clicking on the Brush/ Metamorph option, it asks you for a number of Anim brush frames to make the transformation. You must base the number of frames on your minimum requirements measured against your memory resources. It's no good having a massive 30-cell Anim Brush created if your set-up will only allow you 20 frames of animation. Plan ahead and avoid disappointments. Once *DPaint* gets dug in to converting the brushes, you may as well find something interesting to read. It can develop into a lengthy process, because there is a lot of maths to work out, and a lot of data to adjust. But once completed, you are presented with an Anim brush, hopefully of stunning cleverness. You can use this new brush as you would any other Anim brush.

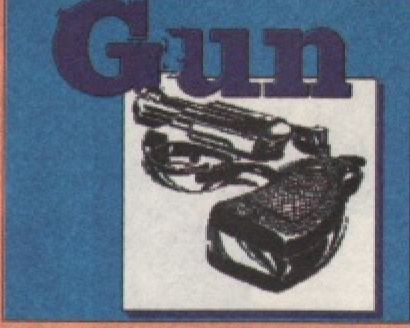
Tip – Keep copies of your start and end brushes before metamorphosis, as *DPaint* has a habit of 'losing' these. You will find it invaluable to add two extra frames to your Anim brush, the original brush at cell one, and the secondary brush as the final cell. To do this, create an animation with two more frames than the number of your Anim brush, and Anim paint your Anim brush down from frame 2. Position the original brush in frame one, and the secondary brush in the final frame. Now pick up the Anim brush again.

Left: These brilliant stills are from a 30-frame animation which combines two Anim Brushes. The main one is a line-drawing of a ghoul which I metamorphosed into a rather scary skull's head. The effect is really smooth and morph very well if the images only have two colours and are roughly the same size. The silhouette bird is another Anim brush made up form just six frames, which I painted repeatedly throughout the duration of the animation.

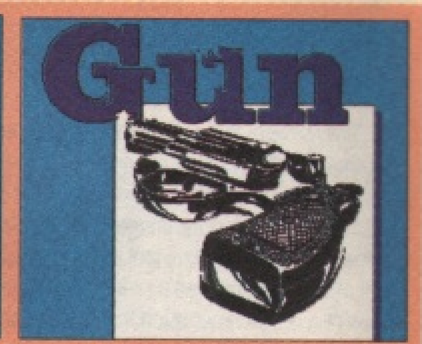
HOT STUFF!

Ever wondered why the long-shots of desert roads in movies always shimmer and blur? Heat haze – the hot air rises off the surface and distorts what you see beyond. The same thing makes car exhaust fumes shimmer too. You can simulate this very easily in *DPaint* – here's an example using a smoking gun. The trick is to have a reasonably-sized brush, an inch thick is fine, and use *DPaint*'s Smear option from the Mode menu.

Having copied your main image to 10 or so frames, you should then activate the Spacing requestor (right click the line tool) and set the N total to 10, and activate that function. Now when you draw a line, the brush will be printed 10 times along the length. Using the technique of Anim painting we featured last month (reminder : press the left Amiga key as you draw out a line – or the ALT key for Workbench 2 users),we can aim the shimmer from the gun barrel across the line of text. You need to do this three or four times to emphasise the effect, otherwise it will be too subtle; choose different directions too for the line of haze. Using this technique you can create realistically hot scenes, from Mediterranean islands to F16 afterburners.







An effect as subtle as heat shimmer is hard to convey in print. Take it from me that a heat haze generated from the gun barrel shimmers over the text in a realistic and delicate manner. This technique can be used in conjunction with the flame Anim brush too, or even underwater sequences where light interaction is expected.



Two animation techniques combine to make an attractive sequence. The text is a brush metamorph (available in DPaint IV), which change the words 'boxing clever' to Sherilyn Fenn over 20 frames. This was saved as an Anim brush, and the picture of Miss Twin *Peaks* loaded into the spare page. A horizontal brush was cut from the top of the image, and animated to move right to left in a blank 20 frame animation.

A further horizontal brush was also cut and moved from left to right in synch with the first brush. The lower half of the picture was clipped and stamped down without movement on all 20 frames, and the Anim brush was finally added. It's a bit of a pun really, for those who know about Miss Fenn's bizarre role in the movie *Boxing Helena*, in which her arms and legs are sliced off.

ANIMATION EDITING

Last month we looked at *DPaint*'s Light Table, which you can access from either the program's animation control panel or the pull-down menu. The program's control panel is more than a cosmetic graphic interface for controlling your *DPaint* movies; it provides editing and play-testing features to help fine-tune your work. It's easy to move backwards and forwards throughout an animation, and the panel will stay on screen while you make edits to particular frames. Apart from the Light Table controls, it's a tool menu which duplicates the keyboard animation controls and provides fluid mouse control for an otherwise awkward method.

ANIMPLAY

Player is a utility which comes with versions III and IV of *DPaint*. This is what's called a stand-alone utility; which means it doesn't need *DPaint* to play an animation. It's like a projector which will show your Anim files on an Amiga. The real benefit of this is twofold: people without *DPaint* can still see »

CHEAP 'N' CHEERFUL

Earlier in the series we looked at some brushes, and one of the commands we covered then becomes a truly wonderful special effects generator with only a little more know-how. If you have a custom brush active, and press the O on the keyboard (that's capital O), *DPaint* will strip the outer edges of pixels from the brush. Keep your finger on the O, and you soon end up with nothing. Imagine this spread over an animation, your brush would be just eaten away as you watched.

There are two different ways of achieving an effect this way. The first is to have some background colour in your brush: line drawings, digitised pictures and so on are good for this. When you pick up your brush, the colours in it which are the same as the background will be transparent. So now, if you press the O key, as well as the pixels being eaten away from the edges, where you'd expect, they are also dissolved from any background areas: in other words, your image begins to melt all over the place. This can give some really useful effects over something small like a 10-frame animation.

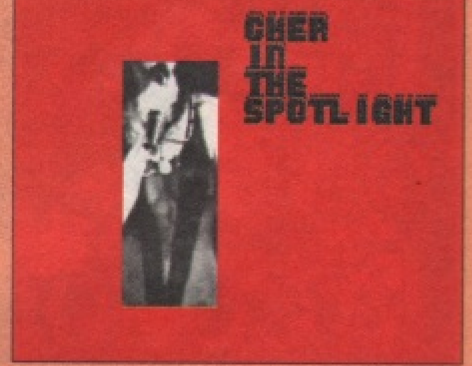
The second way of using this nibble effect is to pick up your brush with no background colour in it. In the case of digitised pictures , which tend to have a lot of black in them, the best way to leave this in tact is to select as a background colour one which isn't in the image at all. You can check which colours are in the image by calling up the palette requestor and playing around with colours at the lower end of the scale. More often than not, you'll hit on a colour not being used. With a non-brush colour as your background, your entire image can be picked up. If you now press the O key, the brush will be uniformly cut down. In the case of rectangular images this gives a brilliant keyhole effect, where more of the image is revealed as the animation progresses, until the final frame when the entire picture is smoothly revealed.

Whichever method you choose, actually completing the animation should be second nature now; here's a five-step guide:

1 set up your blank frames.
2 with your chosen brush active, place it on screen on frame 1.
3 press capital O.
4 press the 2 key to advance to the next frame and click down your diminishing brush.
5 go to 3, and repeat until all frames are painted.

If your brush is large, then pressing O two or three times between painting gets the job done quicker. If you need an animation to play the other way, then start at your last frame with the whole brush, and manually work backwards using keyboard 2 to go to the previous frame, and paint the brush with the mouse button.









Four frames form a sequence in which an image of Cher is gradually revealed. The effect is simply a matter of using one brush command repeatedly, but when it's played back it looks as stunning as Cher herself.

FLAMING GOOD...

This 20-frame sequence uses similar techniques to the smoking gun effect, but in a much more dynamic way. It combines several features that we've covered and gives you the type of stunning photo-realistic image which carries a lot of impact. The heart of the animation is the flame effect. This began life as a static image of a fire. I copied it to 20 frames, and using the line tool with the spacing set at an N total of 20, Anim painted a randomly-shaped brush upwards a dozen times using the Mode/Smear opt ion. (Remember, Anim painting is a way of spreading your brushwork throughout the length of an animation; *DPaint III* users should press the left Amiga key, and *DP IV* users the left Alt key as they drag out their brush to paint on an animation.)

To ensure that when I picked up the resulting flame effect, all I got were the flames, I made a stencil of the fire colours, then cleared the rest of the animation screens using black as the background colour. After freeing the stencil, and using the Anim Brush pick-up command I was able to pick up only the leaping flames. This Anim brush is now part of my library, and can be used whenever it's needed (for instance in burning buildings, wrecks and the like). In the case of our example I typed in the text and placed it on a neat-looking screen, then stencilled every colour except the background. After positioning the flames and stamping them down, I called up the Animation Move requestor, cleared all the settings and told *DPaint* to paint the Anim brush down. The results are enough to warm the cockles of your heart...







These three frames show the flickering flame effect Anim brush dancing behind text. Once created, the Anim brush can be stored and used in any other blazing effect you'd like.









Melting into nothingness, this brush has a fair smattering of background colours. So when you start stripping outer pixels with the O key, the inside is gnawed out too to give a different and startling effect over a number of animation frames.

» your magnificent work from disk, and auto-running animations can be made which will start automatically if the disk is in the Amiga drive at start-up.

You can run Player in several ways:

Simply: from Workbench by clicking on its icon. You will then have to load in an animation using the pull-down menu options. Don't be put off by the blank screen which appears, there is a menu bar hidden at the top, and you access it by moving your pointer to the top of the screen and pressing the right mouse button.

Interestingly: again from Workbench, but using the extended selection mode. If you have an Anim icon on screen (an icon representing one of your saved animations), you can press the Shift key, click on that icon, and with your finger still on Shift, click on the Player icon twice. This will run Player, with your selected animation already loaded.

Cleverly: If you are happy using the CLI (Command Line Interface), then you can run player by changing to the directory where it lives (cd disk:directory), and typing Player.

Automatically: from a bootable disk, which has an S directory and which contains the file 'start-up-sequence'. All this file need contain is the command 'player anim.name' where 'anim.name' is the name of your animation file. But one really useful option is the ability to run a script, containing several sequences one after the other.

You will need to write your script in plain text, using either a word-processor which can save work in Ascii format (which is standard text), or use the Amiga's Ed editor. To run one sequence after another, you simply create a script file, and on each line write the filename of the Anim sequence you want played. In addition, you can add what are called 'switches' after the filename. These control the length of the playback and the number of times the animation is played before stopping. For example, a script could look like this:-

```
Trek01.anim 10
Trek02.anim 20 loops
```

This plays Trek01.anim for 10 seconds, then plays Trek02.anim 20 times. One thing to remember is that your filename should have its complete path in the script if it is different from the Player location (e.g. c:Anims/Trek01.anim). In addition, the Player can also display single pictures, so for example you could have a title screen as your first image, then go through a script automatically.

Finally, actually using Player is just like controlling your animation from within *DPaint*. Here is a list of its keyboard controls and what they do, happy animating: CU

KEYBOARD CONTROLS

KEY	EFFECT
Tab	Colour cycling on/off
L arrow	Slows playback
R arrow	Speeds playback
r	Reverse direction of play
Esc (or space)	Stops playback
1	Go to previous frame
2	Go to next frame
4	Play animation
5	Play once
6	Play ping-pong (backwards and forwards)

NEXT MONTH

It's loose-end time as we do the final spadework on *DPaint;* there'll be more tips on using what we've learned over past issues.
We'll also be looking at preference settings and how to get the best out of the printing options offered by *DPaint*.



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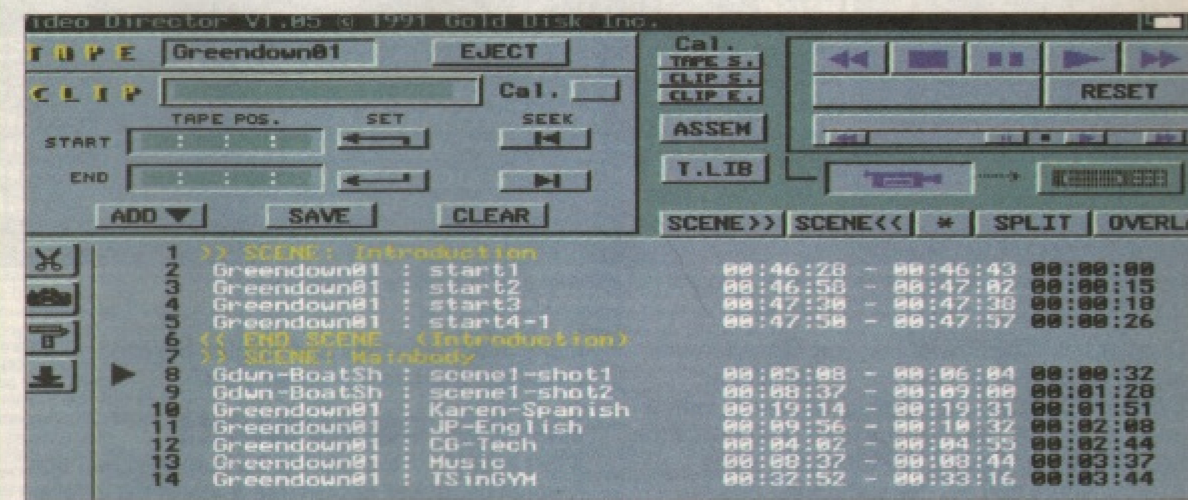
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VIDEO TITLING ON YOUR AMIGA

PART 5

This month, Jim Strutton looks at how you can turn your Amiga into a video editing machine.



This is the main Video Director Control Screen. The lower portion of the screen is the Edit Decision List for a production.



Editing is that vital ingredient which transforms a good video into a brilliant one. Look at any TV advert and you'll see that there can be up to 30 cuts (or change of shot) in any minute-long advert. These cuts are vital to the quality of the add and maintaining the consumer's interest.

So, how can you turn your Amiga into a video editing machine? There are many options for turning your Amiga into a video edit machine, but I want to look at Video Director which is one of the cheapest options. Video Director is a dedicated controller and at £120 and is widely available from reputable Amiga stockists. Video Director consists of software and two special cables. One cable controls your camcorder and the other controls most infrared remote videos.

SO WHAT DO I DO?

To use Video Director your camcorder must have a 'Control L' or 'Lanc' socket which is present in most 8mm and Hi-8 machines from Sony, Sony clones and machines from Canon and Sanyo etc are compatible. However, I haven't seen any VHS or VHS-C camcorders fitted with the socket and unfortunately Video Director is not compatible with the 5 pin edit sockets found on machines from Panasonic.

The software consists of several utilities which set up the main program to work with your camcorder and VCR. The control signals vary from camcorder to camcorder so you have to configure your main program by selecting the appropriate driver file. Not every variation of camcorder is listed, so you might have carry out test runs to get the system to work with your camcorder. Although my Canon A2Hi was not listed, I found that the high end Sony driver, in fact, worked. I also found that the more expensive the camcorder, the better the control. Some basic camcorders only allow the minimum of control through the Lanc socket. This means that the editing process with Video Director gets a bit slow if the program can't put the camcorder into fast picture search. That is not to say that it does not work, it's just that it is not as fast as a camcorder with more features.

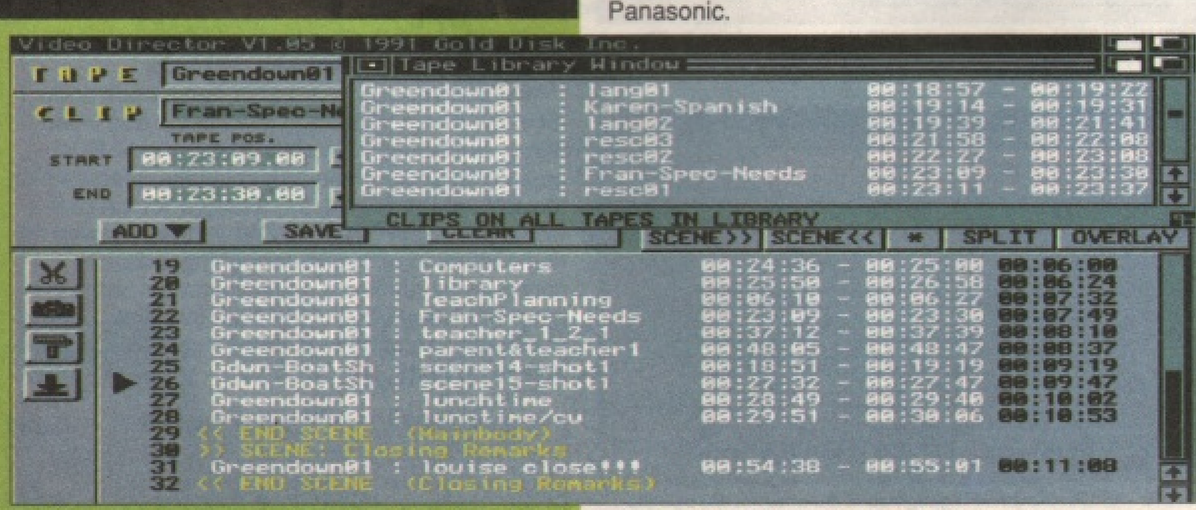
The video output side is controlled by the cable with the infrared transceiver. There are no standard control files, but you create your own using the standard remote for the machine. To do so, you run the utility and point the remote at the transceiver, whilst pushing the command keys as requested.

To get the best from your target video, it must be able to work as an edit machine. It needs to have things like record pause and flying erase heads to get a good result. This rules out the very cheap VCRs because even though they will work, the results may only be a little better than 'Crash Editing'.

Crash editing is a term that describes the system for manually editing a video. First of all, you cue up the source machine and put it on pause, then you find the place where you want the scene inserted on the target video and put that into record pause. You then release both the pause buttons and hope that a successful edit occurs.

One of the reasons why crash editing can be difficult to get right is because of the pre-roll on the video decks.

A pre-roll is the time lag which occurs before VCRs start to play or record a video signal. Prerolls are different for every model of VCR. Video »



The Tape Library Window shows every video clip that you have identified to Video Director. You 'Cut' a clip from this list and 'Paste2' it into the Edit Decision List.

Setting the 'Pre-Roll' delay time of the output deck. A lot of trial and error goes into getting this figure exact!

Director has a parameter that you can set, which allows for pre-roll in different. To set up this parameter you record a picture of a clock with a second hand as you edit the tape. You adjust the pre-roll parameter until the recording starts exactly where you set the start of the clip.

That really is the only painful part of getting Video Director set up once you have loaded the correct Lanc file set the infrared control and adjusted the pre-roll, the system is a dream. It can identify any number of clips on any number of tapes, depending on the capacity of your disk.

The operation involves viewing your camcorder tapes and identifying the clips that you want. It stores a record of the clips in a database. You can then paste these clips, in the order you want, into a script file for the whole production. It allows you to define a set of clips as a scene and so to build up a coherent story line.

You can then print this file for reference. Once you have a story line built, the assemble command takes the tapes and outputs the clips, in the order you want, to the target VCR.

MINOR DRAWBACKS

If this sounds all too good to be true, then perhaps it would be as well to point out a few of the pitfalls. The system is not time coded in its basic form, so frame accuracy is not possible. Having said that, with a bit of forethought, you can get near to 3/6 frames accuracy or around a tenth of a second. I have found that Video Director works best, if it is compiling clips in a linear sequence down a tape. For my commercial work I can shoot my tapes in that way. I arrange it so that I shoot all the scenes from a location on one tape. This means that as I compile the finished programme, I am building the scenes up from the beginning of the origin al camcorder tape. It is possible to put special timing events into Video Director, which allow you to rewind tapes and to identify events, to keep the timing accurate. I use this feature to start from the beginning of the tape for each new group of clips. For subsequent clips I start shooting with a conventional clapper board so that I always have a reference point.

Timecode is a system that is found on professional video equipment and also on some high end consumer machines. It is an additional electronic track on the tape that numbers every video frame, which means that you can accurately position the tape to a specific frame. Whilst this is useful, the consumer versions do leave a bit to be desired in that they are still only accurate to 2/3 frames .

Video Director will also allow you to put static graphics by way of a GenLock over scenes. This can be great for transition effects between scenes or things like captions. It will also control our old friend the Digital Creations SuperGen, which as it only comes in the NTSC format is not much use to us. Other makes of GenLock can be used, but you have to manually control the fades if you want any effect and the video signal is always passed through the GenLock in overlay mode. Video Director creates a blank screen during the time that no graphics are required.

The program to train Video Director to operate a remote control VCR. You can manually control a VCR if it has no remote facility though.



Selecting the remote control drivers for the 'Source' and 'Record' VCR. The LANC 2 driver highlighted is the one that will operate most modern camcorders fitted with a LANC or Ctrl-L socket.

ALL IN ALL

At around £120 Video Director is an advanced version of all the dedicated controllers that are available. Desk Top Video has been likened to Desk Top Publishing. Video Director is a program that makes this possible, in that you can cut and paste video clips in the way that you can cut and paste words in a DTP system. I could not exist without it and until somebody comes up with a way to cheaply record video to disk for editing on the Amiga, it does me just fine!

On that very subject, I attended a trade show recently, where wonderful Multimedia and video things where demonstrated on expensive PCs. Looking at some of the presentations, representing the state of the PC art, the average Amiga user would have said "so what". When they showed the demonstration of the PC formatting a disk, whilst concurrently running a small animation and a WP program, I nearly fell of my chair laughing. Correct me if I am wrong, but haven't Amigas always been able to do that? CU

Video Director is published by Gold Disk and is available from Silica Systems,Tel: 081-309 1111,
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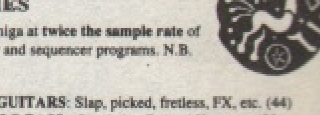
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GAMES PROGRAMMING MADE EASY



Unless CU Amiga users do something about it, it seems that there may never be an AGA version of AMOS Pro!

AMOS AGA – WILL IT EVER HAPPEN?

The last couple of months or so have seen some pretty major events in the Amiga community, not least of which must be the release of the new CD32 console. With its 68020 processor, 2 Mbs of RAM and AGA chip set, the launch of the CD32 must surely open the flood gates for a whole range of AGA-specific game titles on floppy (for A1200 and A4000 owners) and on CD-ROM. Many thought that AGA screen modes would never be used by commercial games programmers, but now that Commodore have thrown down the gauntlet with the launch of the CD32, developers have no choice.

With all this AGA attention, the 32 (bit) million dollar question has to be, 'Where is the AGA compatible version of AMOS Professional that Europress have been promising us?' Well, I'm afraid there still seems to be no light at the end of the tunnel. When I last spoke to Europress, they seemed to be doing a very good job of passing the buck. Richard Vanner, development manager at Europress, seemed doubtful that Francois Lionet (the programmer of AMOS) would ever get around to upgrading AMOS at all. Instead, Richard tried to cushion the blow by claiming that several third-party programmers were working on their own AMOS extensions. All fine and dandy, but come on guys – it's your responsibility!

Ok, so an AGA upgrade isn't going to make Europress any money, but if you want AMOS to survive the impending battle with Blitz Basic 2 (which is fully AGA compatible!), then it's up to you to provide Amiga programmers with a language that is up-to-date. Most of us who have upgraded to AGA machines want to be able to program games, demos and educational software that can take advantage of our new machines and if AMOS can't do it, then I can see a lot of AMOS programmers looking elsewhere.

If you feel strongly about AMOS getting an AGA upgrade, then why not let Europress know. Send your letters to: Richard Vanner, Europress Software, Europa House, Adlington Park, Macclesfield SK10 4NP.

PART 7

Dave Smithson goes once more unto the breach with his *AMOSteroids* shoot 'em up game and takes a look at the routines needed for the parallax asteroid field.

ASTEROIDS AHOY!

As you may remember from last month's issue, we were tackling the subject of generating and moving the asteroids that the player's ship has to avoid and then and shoot. In many ways, the code that we will use is very similar to that required to generate a parallax starfield. The original control code for the asteroids is based around a very simple parallax starfield routine that I wrote a number of months ago.

So where do we start? Well, before we can write the code to handle the asteroids, we need a sprite bank containing the imagery for the asteroids. Because of the enormous size of the asteroids, we use AMOS' slightly slower blitter objects (bobs) in preference to hardware sprites. If we were to use hardware sprites, we would need three hardware sprites for every asteroid (each asteroid is 48 pixels wide!). Using bobs also makes the task of designing the asteroids easier because we can use any part of the screen's colour palette. As it is, however, the asteroids use only the first five colours (including colour '0' which is transparent).

Drawing a simple rock-shaped object is very simple, but our asteroids are fully animated so the process is a bit more complicated. Using *Deluxe Paint* to draw the asteroids makes this task easier. All I did was draw a basic outline of an asteroid and then rotate it 45 degrees to generate eight different views of the same shape. After a bit of touching up, each frame was then filled in using a range of brown shades. The resulting eight frames were then saved onto disk and grabbed into the AMOS Object Editor using the 'IFF Grabber' option.





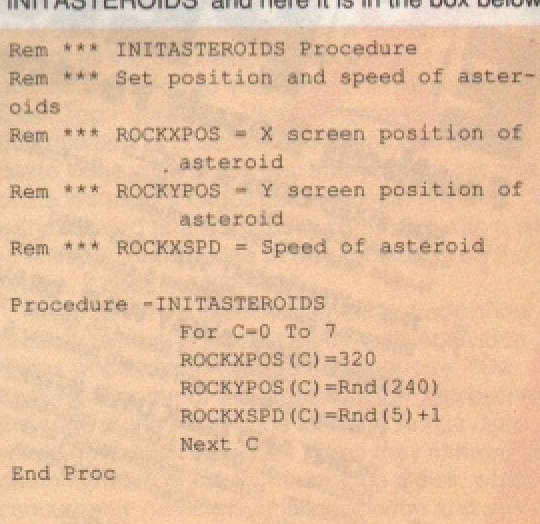
HOW TO GET THE ASTEROIDS MOVING

Keeping track of eight different asteroids is quite code intensive. So, in order to make life somewhat easier for yourself, group all the asteroids together into a set of three data structures which you must define at the start of the program using the following lines of code:

```
Dim ROCKXPOS(8),ROCKYPOS(8),ROCKXSPD(8)
Global ROCKXPOS(),ROCKYPOS(),ROCKXSPD()
```

The variable names that I've assigned to each data structure make their use self-explanatory - 'ROCKXPOS()' contains the 'X' screen positions of the asteroids, 'ROCKYPOS()' contains their 'Y' screen positions and 'ROCKXSPD()' contains their horizontal speed. Each time a new game is started, these three data structures are filled with a set of randomly-generated default values.

The procedure that handles this task is called 'INITASTEROIDS' and here it is in the box below:



```
Rem *** INITASTEROIDS Procedure
Rem *** Set position and speed of aster-
oids
Rem *** ROCKXPOS = X screen position of
         asteroid
Rem *** ROCKYPOS = Y screen position of
         asteroid
Rem *** ROCKXSPD = Speed of asteroid

Procedure -INITASTEROIDS
         For C=0 To 7
         ROCKXPOS(C)=320
         ROCKYPOS(C)=Rnd(240)
         ROCKXSPD(C)=Rnd(5)+1
         Next C
End Proc
```

This procedure gives some indication of how the data structure is processed. A simple 'For... Next' loop sets up each asteroid in turn, calculating a

The animation of the rotating asteroids was first drawn up in *Deluxe Paint* by drawing a single outline and then rotating by 45 degrees to produce eight frames.



Generating a random speed for each asteroid produces parallax movement allowing the faster asteroids to overtake others.

random value for both the asteroid's 'Y' screen co-ordinate and its speed. Calculating a random speed for each asteroid gives a good impression of depth as each asteroid moves at its own unique rate, so some asteroids can overtake others – giving a sort of parallax effect, if you like.

Once the asteroids have been initialised, the game starts and the main game loop is processed. In every frame the asteroids are updated by a procedure called '-MOVEASTEROIDS'. This procedure moves the asteroids on the screen, keeps track of when they move off the screen and updates the asteroid's animation. Let's take a look:

```
Rem *** MOVEASTEROIDS Procedure
Rem *** Update positions and animation
        of asteroid bobs
Rem *** Resets any asteroids that have
        passed ship
Rem *** FRAMECOUNT = Delays animation
Rem *** ROCKFRAME = Current rock anima
        tion frame

Procedure -MOVEASTEROIDS
        Rem *** Update asteroid
        animation
        FRAMECOUNT=FRAMECOUNT+1
        If FRAMECOUNT=5
        FRAMECOUNT=0
        ROCKFRAME=ROCKFRAME+1
        If ROCKFRAME=9
        ROCKFRAME=1
        End If
        End If
        For C=0 To 7
        ROCKXPOS(C)=ROCKXPOS(C)-ROCK
        XSPD(C)

        Rem *** Has asteroid left
        screen?
        If ROCKXPOS(C)<-40
        ROCKXPOS(C)=320
        ROCKYPOS(C)=Rnd(240)

ROCKXSPD(C)=Rnd(5)+LEVEL
        End If

        Bob
C,ROCKXPOS(C),ROCKYPOS(C),ROCKFRAME
        Next C

        Rem *** Make game progressively
        harder!
        If SCORE>1000*LEVEL
        LEVEL=LEVEL+1
        End If

End Proc
```

The procedure starts by increasing a variable called 'FRAMECOUNT' that acts as a sort of delay for the animation of the asteroids. The animation of all the aster- oids is updated at once if the 'Framecount' variable reaches 5. If it has reached 5, then the 'Framecount' variable is reset and the animation frame is increased by one. To loop the animation around, the value of the animation frame is checked and if it too has reached a maximum value (in this case, a value of '9'), then the animation frame is reset to 1.

Once the animation update process is complete, the procedure moves on to update the pos- itions of each asteroid. Every asteroid is handled individually using a very simple 'For... Next' loop that counts from zero to seven. The loop starts by decreasing the asteroid's 'X' screen position by subtracting the asteroid's speed (held in the 'ROCKX SPD()' array) from its 'X' screen co-ordinate (held in the 'ROCKX-POS()' array). When an asteroid mo- ves off the screen, it is reset so that it can be used again. This is done by checking that the asteroid's 'X' co-ordinate has not fallen below a value of '-40'. If it has, the asteroid's 'X' position is set to '320' and both its 'Y' position and speed are randomly calculated again. Finally, the asteroid is redrawn on the screen by calling the 'Bob' command.

Note how the speed of the asteroid is increased by adding the value held in the variable 'LEVEL' to the random number. This variable gives us a quick and easy way of making the game progressively harder. Simply by increasing the value held in the 'Level' variable, the speed of all new asteroids will be increased too. And, at the end of the procedure, that's exactly what we do – if the player's score increases above a multiple of '1000' (multiplied by the current value of the 'Level' variable), then the level is increased by a value of 1.

Now you have all the codes you need for the parallax asteroid field. Note how the asteroids are not redrawn automatically by AMOS. Each call to the 'Bob' command requires the setting up of the Amiga's blitter, so redrawing them all would just be too slow. Instead, automatic bob redraws are turned off using the 'Bob Update Off' command and only when the main game loop has finished are the bobs drawn onto the screen 'en masse' with a single call to the 'Bob Draw' command. This saves huge amounts of processor time. CU

AMOSTEROIDS CHEAT!

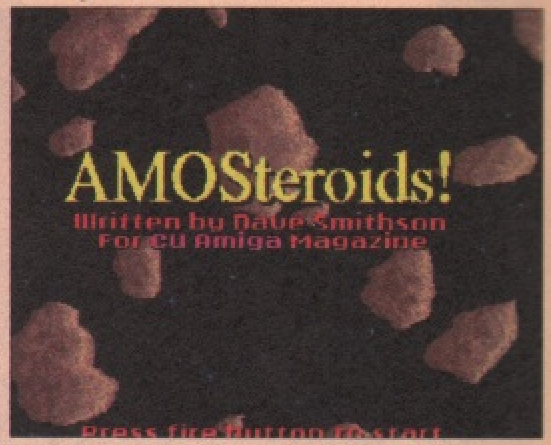
If you're still struggling to clock up a decent score on the compiled version of *AMOSteroids*, then why not try this handy cheat. When the game's title screen appears, hold down the left 'Shift' key and type in 'CHEAT'. If the cheat was activated correctly, then you should hear an audible beep. Start the game and your ship will be invincible, allowing you to clock up some impressive high scores!

NEXT MONTH!

Phew! We've covered some pretty heavyweight programming techniques this month. Next issue, we'll be taking a look at the code required to generate the missiles that the player's ship can fire. And, if we've got the space, we may even cover the collision detection code.

OPTIMISING YOUR GAMES

No one could possibly doubt that AMOS turns in some pretty impressive code performance ratings, but it will never be anywhere near as fast as pure assembly language, the choice for commercial games programmers. There are ways, however, of squeezing that extra spurt of speed from your AMOS code. Here are just a few:



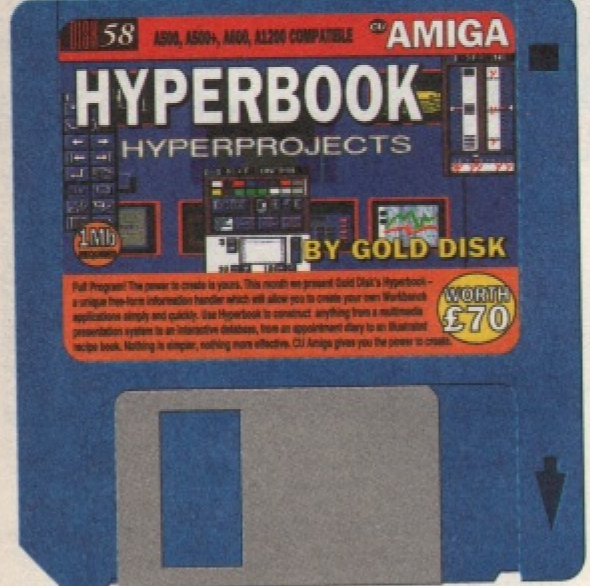
AMOS games may not run as fast as their assembler counterparts, but there are ways of squeezing that extra spurt of speed from your AMOS code.

1. Buy the AMOS Pro Compiler because it produces a machine code version of your program, which will run much faster.
2. If you insist on using AMAL (most AMAL programs run no faster than their AMOS equivalents once compiled!), then switch off the AMAL interrupt system (using the 'Synchro Off' command) and then run all your AMAL programs directly (with the 'Synchro' command).
3. If your game uses two or more bobs, switch off AMOS' automatic bob redrawing feature (using 'Bob Update Off') and then redraw all bobs 'en masse' with the 'Bob Clear' and 'Bob Draw' commands. This will increase in code performance as all your bobs will be drawn onto the screen in a single blitter operation.

When handling the process of updating a double buffered display switch AMOS' 'AutoBack' facility from its default setting ('3') to AutoBack mode '1'. When you need to swap the physical and logical screens, just add the line 'Screen Swap'.
4. Try to keep your game screens as small as possible – even if you knock your game screen down from 256 vertical lines to 200 vertical lines, a huge speed increase will be evident.
5. When compiling your game, turn off the compiler's 'Runtime Error Checking' facility. Runtime error checking eats up valuable system cycles which can be used by your game.
6. Try to keep the depth of your screen as low as possible. Every single extra bitplane that the Amiga's blitter has to work on will cause a slight decrease in code performance.

When designing blitter objects, you should always try to design them so that they use the first set of colours in a game's screen palette. Another good idea is to restrict the depth of the bobs in your sprite bank so that only the bitplanes that the bobs use are included in the sprite bank. Not only will this reduce the size of your sprite bank, but AMOS can plot them onto screen a lot faster!
7. Insert the line 'Doke $DFF180,$RGB' (where '$RGB' is a valid hex colour value) between each procedure in your main game loop, each with their own unique '$RGB' value. When you run your program, the background colour will change at several different vertical positions, giving you a sort of psuedo-graph of the time required to run each procedure. If one colour section is much larger than the others, you'll know which procedure is causing the speed problems.
9. Keep it simple! AMOS may be fast, but it's still a Basic programming language at the end of the day. Although it can handle simple arcade games, don't expect it to run your AMOS version of Project X. The most important aspect of any game is its gameplay; even the simplest games can have this in abundance (check out *Tetris* if you don't believe me!)

HYPERBOOK MASTERCLASS



PART 4

Sadly its time to say good-bye to *Hyerbook* and make way for pastures new. So with out further ado – in the fourth and final instalment of his *Hyperbook* tutorial, Jason Holborn extends his database program with the addition of 'Delete', 'Search' and 'Sort' functions.

```
Macro Editor
/*

  Delete record macro
  By Jason Holborn

*/

SearchName = InputString('Please enter surname to delete','')

if SearchName = '' then exit

item = SearchItems('SList'(),SearchName)

if item = '' then do
  Call Inform('Record not found!')
  Exit
  End

Item=DelStr(Item,1,4)

/* Extract fields for that record from lists */

Surname = Getitemtext('SList'()'/'Item)
Forename = Getitemtext('FList'()'/'Item)
Phone = Getitemtext('PList'()'/'Item)
```

The process of learning any complex subject is often compared to a long journey that is fraught with trials and tribulations. Well, if our look at *HyperBook* is a journey, then we're already well on our way to the train station. Yes folks, I hope you've packed your clean underwear because the *HyperBook* train will be departing within a matter of seconds. All aboard and 'mind the step!'

If you were with us last month, then you'll already know that we started work on a very simple database program that makes use of *HyperBook*'s powerful 'HML' macro language; an *ARexx*-based programming language that extends the usefulness of *HyperBook* immeasurably. Many who have had only a passing glimpse look at *HyperBook* as a rather limited tool, but will be amazed how much power is locked away beneath the surface. Because HML is *ARexx*-based, however, you're going to need an Amiga capable of running *ARexx*. This won't be a problem as all Amigas since the A500 Plus now come bundled with *ARexx* as part of the Workbench system disks. Even if you are still running an old Amiga 1000, 2000 or 500 with Workbench 1.3 (or even older), you can still get in on the act by buying *ARexx* separately; it is available for £35 from Silica Systems on 081-309 1111.

In last month's CU we completed the user interface of our database program and added the first two HML macros to our *HyperBook* application in the form of the 'Enter Record' and 'Edit Record' macros. The 'Enter Record' macro allowed us to enter a record into the list gadget while the 'Edit Record' macro allows us to edit any record by clicking on its entry in either one of the three list gadgets. Now all we need are the final three functions: 'Search', 'Delete' and 'Sort' and our *HyperBook* database will be complete! If you fancy adding a few extra functions, then feel free to experiment. Don't forget that the *HyperBook* manual is still available from Silica Systems on 081 309 1111 for £14.95. Before you rush off to find your cheque-book, let's get stuck into the next instalment.

```
/*
      Delete record macro
      By Jason Holborn
*/

SearchName = InputString('Surname to
delete','')

if SearchName = '' then exit

item = SearchItems('SList'(),SearchName)

if item = '' then do
      Call Inform('Record not found!')
      Exit
      End

Item=DelStr(Item,1,4)

/* Extract fields for that record from
lists */

Surname = Getitemtext('SList'()'/'Item)
Forename = Getitemtext('FList'()'/'Item)
Phone = Getitemtext('PList'()'/'Item)

Format = ' Surname:'Surname '0a'x
'Forename:'Forename
Format = Format'0a'x 'Telephone:'Phone

/* Check that user wishes to delete Record
*/

Record=InputForm("Delete Record - Are you
sure?",Format)

/* Delete record */

Call Delete('SList'()'/'Item)
Call Delete('FList'()'/'Item)
Call Delete('PList'()'/'Item)
Exit
```

1 First, let's start with the 'Delete Record' macro. Go up to the *ARexx* pull-down menu, select 'Create Macro' and the Macro Editor will appear. Enter the macro in the box in the top-right of this page. Once that is done, click on the Macro window close gadget and name this macro 'Delete Record'.

There's nothing complex about this macro – it starts off by asking you to enter the surname that you wish to delete by calling the 'InputString' function. We haven't actually used this function before; all it does is bring up a single line string gadget that prompts you to enter a line of text that will be used to locate and then delete the record in question. It requires two parameters: first, the line of text to place along the top of the string gadget (in this case 'Surname to delete' and a second parameter that contains a default value. We don't actually need to provide a default value, so this parameter is kept blank.

'If Macro' then checks whether the user has entered a string. If no string was entered it exits back to the main *HyperBook* stack. If, on the other hand, a string was entered, we use the 'SearchItems()' function to search through the surname itemlist ('SList()') for the string that was entered. If the 'SearchItems()' function was unable to locate the record in question, a short error message is displayed on the screen and the macro, once again, exits back to the main *HyperBook* stack.

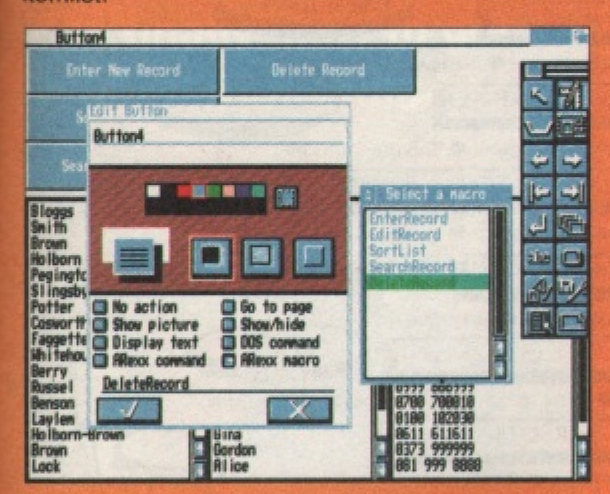
If, on the other hand, a string was found, then the full record details are extracted from the itemlist and a requestor pops up onto the screen prompting the user to confirm whether they wish to delete this record or not.

You'll notice that the macro doesn't automatically check whether the user clicked on the 'Ok'

gadget (to confirm the delete) or the 'Cancel' gadget (to abort the delete). There's a very good reason for this – *HyperBook* is intelligent enough to know whether it should continue executing the script or not.

If the user clicks on the 'Cancel' gadget (the cross symbol), *HyperBook* will automatically end the script.

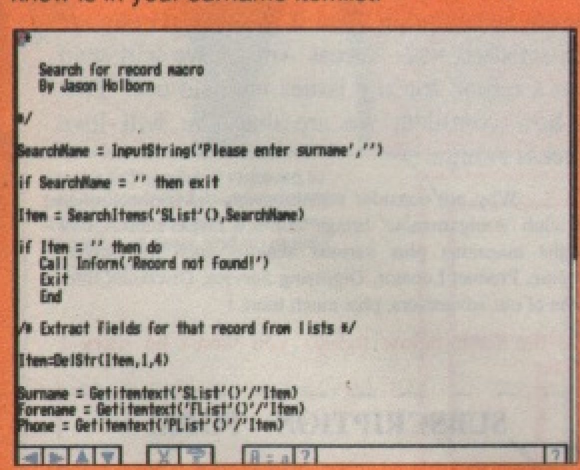
Finally, the record is deleted if the user confirmed the delete operation by calling the 'Delete()' function three times – once for each itemlist.



2 With the 'Delete Record' macro complete, we need to attach it to the appropriate button. Move the mouse pointer over to the *HyperBook* toolbox, select the 'Edit Object' tool and then click on the 'Delete Record' button once with the left mouse button and then click again with the right mouse button. If everything went ok, the 'Edit Button' requestor should pop up onto the screen. Move the mouse pointer down to the action gadgets, click on '*ARexx* macro' and then select 'Delete Record' from the list of macros that should appear.

Finally, click on the 'Edit Button' requestor's 'Ok' gadget (the tick symbol) and the 'Delete Record' function is complete.

If you fancy testing it, click on the 'Delete Record' button and enter a surname that you know is in your surname itemlist.



```
Search for record macro
By Jason Holborn
*/
SearchName = InputString('Please enter surname','')
if SearchName = '' then exit
Item = SearchItems('SList'(),SearchName)
if Item = '' then do
  Call Inform('Record not found!')
  Exit
  End
/* Extract fields for that record from lists */
Item=DelStr(Item,1,4)
Surname = Getitemtext('SList'()'/'Item)
Forename = Getitemtext('FList'()'/'Item)
Phone = Getitemtext('PList'()'/'Item)
```

3 Now let's move onto the 'Search Record' macro. If you look very closely at the listing below and compare it to the 'Delete Record' macro, you'll notice that there's very little difference.

This shouldn't come as any great surprise: the process of deleting a record in any database program (whether it's written using *HyperBook* or any programming language) requires the program to start by searching for the record.

The only real difference between the two macros is that the 'Delete' macro will remove the record from the database. The 'Search' macro, on the other hand, leaves the record details intact once they have been displayed.

Once you've entered the macro into the Macro Editor, click on the close gadget, name it 'Search Record' and then attach the macro to the 'Search Record' button in exactly the same way as you did with the 'Delete Record' macro.

```
/*
        Search for record macro
        By Jason Holborn
*/

SearchName = InputString('Please enter surname','')

if SearchName = '' then exit

Item = SearchItems('SList'(),SearchName)

if Item = '' then do
        Call Inform('Record not found!')
        Exit
        End

/* Extract fields for that record from lists */

Item=DelStr(Item,1,4)

Surname = Getitemtext('SList'()'/'Item)
Forename = Getitemtext('FList'()'/'Item)
Phone = Getitemtext('PList'()'/'Item)

Format = ' Surname:'Surname '0a'x
'Forename:'Forename
Format = Format'0a'x 'Telephone:'Phone

/* Display Record Details */

Record=InputForm("Record Found",Format)
Exit
```

FILE SAVING

You'll notice that our database program doesn't actually save the database records to an external file in the same way as a conventional database program like *SuperBase*. Unless you want to use it to manage several completely separate databases, you don't really need to – because *HyperBook* treats its itemlists as permanent gadgets. The contents of the itemlist are saved as part of the *HyperBook* stack. This means that if you do wish to retain the contents of your database, the stack must be saved before you exit *HyperBook*.

HyperBook doesn't actually provide its own functions for file handling. If you wish to save the contents of your database to an external file, then you need to turn to *ARexx* itself which offers a whole host of functions designed specifically for handling both sequential and even random access files. If you know your *ARexx* and you're feeling particularly adventurous, then why not have a go at adding the 'Load' and 'Save' functions yourself. To make life somewhat easier, however, *Hyperbook* does allow you to call up its file requestor using the imaginatively named 'FileRequest()' function. The format of the filerequest() function is as follows.

Filename = FileRequest(Prompt, Default)

The two parameters that are associated with this function are pretty self-explanatory. The 'Prompt' parameter is simply a string that contains a line of text that will be used as the file requestor's title. You could enter anything here ranging from 'Please Select File to Load' to 'Hey Dude, which file?'. The optional 'Default' parameter contains the default AmigaDOS path and filename.

If you'd like to find out more about *ARexx*, then why not treat yourself to a copy of Abacus' brilliant *ARexx* tome, *Using ARexx on the Amiga* (ISBN Number 1-55755-114-6). Written by the same guys that programmed *HyperBook*, it's packed with pages of lucid descriptions of all the *ARexx* functions and even includes a very good section of using *ARexx* to control HyperBook. *Using ARexx on the Amiga* is available from all good book stores.

A simple call to the 'FileRequest()' function is all that is needed to give you access to this wonderful file requestor.

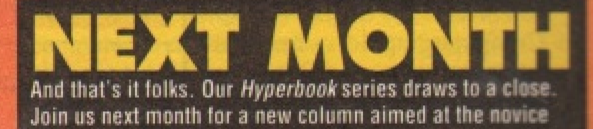
4 Finally, our last *HyperBook* database – the 'Sort List' macro. Considering the complexities of sorting any list, you'll be pleased to learn that *HyperBook* takes away all the hard work here too thanks to a handy function designed specifically for the task called 'SortList()'. If you were writing your database using any other language, sort three separate lists so that they are all sorted into the same order would be quite difficult, but the 'SortList()' function takes care of this too – simply by feeding it a list of all the lists that we wish to sort, the function sorts the first list (in this case, the surname list) and then reorders any lists that follows in exactly the same order. As a result, all three lists are kept in the same order regardless of whether the first names or phone numbers held in the two extra lists start with different characters from those used in the surname list.

Enter the following macro, name it 'SortList' and then attach it to the 'Sort List' button. Once you've done this, your *HyperBook* database is complete. If you're feeling adventurous, why not try adding a couple of extra functions of your own! CU

```
/*
        Sort List Macro
        By Jason Holborn
*/

Call
SortList('SList'(),'FList'(),'PList'())
Exit
```

NEXT MONTH



ACCESS Amiga

Access Amiga has arrived ! This new magazine from Weekend Developments brings Amiga users the latest news, reviews, articles, competitions, plus an excellent coverdisk. A major thing you will notice about the magazine is that it is not packed out with adverts, the larger percentage of the magazine consists of interesting reviews and articles, so it gives you, the reader excellent value for money.

Issue one was launched on the 1st September and is available now. Its content includes CD32, 3 Monitors (The 1940, 1942 & 1960), PC 286 & 386 Bridgeboards, TT2 & MegaLoSound direct to disk samplers, an Eric Schwartz Special, plus an interview with AMFMs Bjorne Lynne.



Issue 1 - Access Amiga

News includes details of a brand new Amiga Show, and a new service from EM Computergraphic. In this first issue you are also given the chance to win some brilliant software from 10/10 Educational Systems, with a first prize worth over £100. So, why should you give Access Amiga a try ? Well, apart from the amazingly low coverprice of £1.75 you also get a disk. Issue ones disk contains a full game from 10 out of 10s English package, and some brilliant music from AMFMs disk magazines.

For those of you interested in Issue 2, it will be available on 1st October, and we are already able to bring you details of its' content. Amongst other things two Idek 17 inch monitors are put to the test. Plus the Rainbow 3 24-Bit graphics board and the Fastlane Z3 SCSI2 controller from Chartscreen UK are under review. Also being reviewed are; Pagestream 3, Brilliance, AdPro, Maths Algebra, two new CDs from Almathera 'Demo CD2' & 'CDPD3', and a special European Computer Trade Show report, which will bring details of some future releases. Our readers offer in Issue 2 is 100 FREE tickets to the new Spotlight Amiga Show at the Novotel, Hammersmith on October 17th (Special telephone hotline code). Plus not one, but TWO COMPETITIONS; There are 3 MegaLoSound sampling packages up for grabs, and in the second competition 12 pairs of tickets to be won for the International Computer Show at Wembley in November. Issue 2s coverdisk contains Solitaire Sampler from Tower Software and will be packed with some extra programs too. So order Issue 1 and 2 today, or take advantage of our subscription service that comes with a special guarantee. Take a 6 or 12 month subscription, and if at any time you are not satisfied with Access Amiga, we will send you a refund for any issues not sent out. That is how confident we are that you will love Access Amiga.

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BUILD YOUR OWN ROBOT

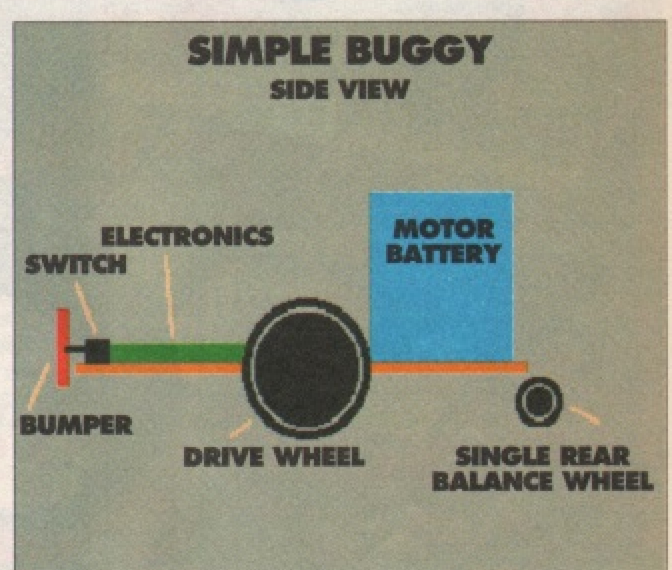
PART 3 With the interface and control electronics safely finished, John Kennedy shows how you can finally start to get your robot moving.

Short of pushing your robot off the desk, the only way you will get it to move is by using electric motors. A small DC motor will only need between six and nine volts to provide enough power to push a small or medium buggy around a table top or tiled floor. However, we also need to able to steer the robot by remote control or it will fall off the desk by itself anyway. To do this, you'll need to build a rack-and-pinion system as used in a car. You will need two motors: one to provide the main driving force to move the robot forwards and backwards and the other to operate the steering system.

Or you could position the two motors so that when one is moving forwards and the other is moving backwards the buggy will spin around on a central axis. When both motors are driving in the same direction, the buggy goes forwards or backwards. By determining the length of time the motors are operating, the current orientation and position of the buggy can be gauged. I must profess to liking this solution, as I find building a rack and pinion system a bit of a chore. Also, the inherently large turning circle is not always suitable for a small robot. Of course, you may have a better design for a steering system already in mind. Or perhaps you don't need to steer your creation at all: you might have created a robot arm rather than a buggy.

BUILDING IT

Deciding what material to actually build your robot with depends on several factors. For starters, if you are handy with wood or metal you might be able to completely fabricate your robot from scratch. Or if you own lots of Mecanno or Lego sets you might want to use those. My first excursion into the world of DIY robotics made use of Mecanno, which had several advantages. Not only was it very strong, but the pieces could be bent to fit around specially-designed parts (motors, electronics and so on). This time, I'm using Technical Lego. Although the kits are rather expensive they seem to offer the easiest way to integrate electric motors and gearing into the system. Plus of course, you can get little men with crash helmets to stand around and get run over.



Here's a suggested plan for making your buggy. Note the weight of your battery should keep the balance wheel on the ground.

GET WIRED

No matter how you decide to build your robot, the method for driving the motors remains the same. The overall aim is a connection scheme which allows both motors to travel forwards, backwards and in opposing directions more or less independently. Control over the direction will be governed by a number sent to the Input/Output port. In turn, the port will operate the relay circuits we built last month which will determine which motor receives which voltage.

There is ample scope for expansion. You may wish, for example, to provide a twin speed system. (With a little cunning, this can be achieved with only one more relay circuit: arrange for the motor battery supply to travel through a resistor when the relay is in one state, and for the resistor to be shorted in the other state.

Figure 1 shows the circuit diagram of the connections needed to drive two motors. You should then check this against the photograph and solder the leads as appropriate.

Note that drawing power for the motors directly from the Amiga is not a good idea: not only could they draw too much current and cause the Commodore PSU to overheat, but as electrically 'noisy' components, the motors could cause the computer to crash. The Least Significant Bit (LSB) of the Input/Output port, D0, is used to control power to both motors via the first relay circuit.

In this design, the two driving motors are always both on or both off. The situation when one motor

»

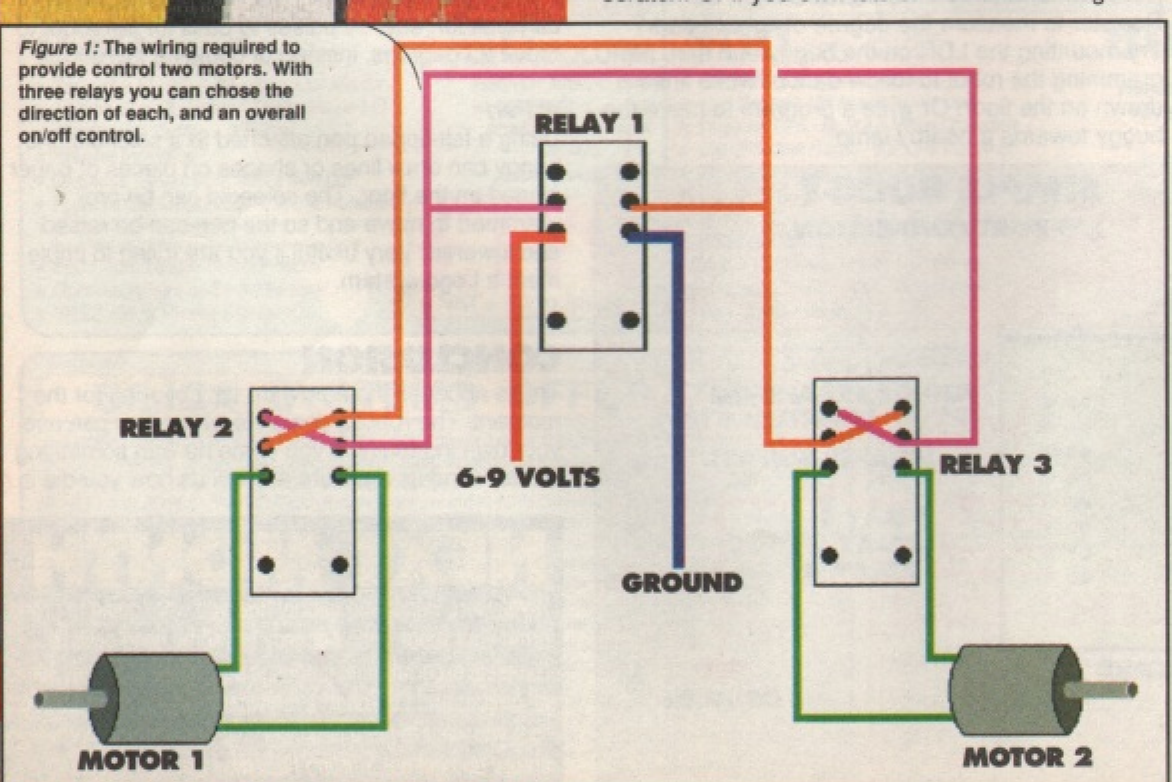
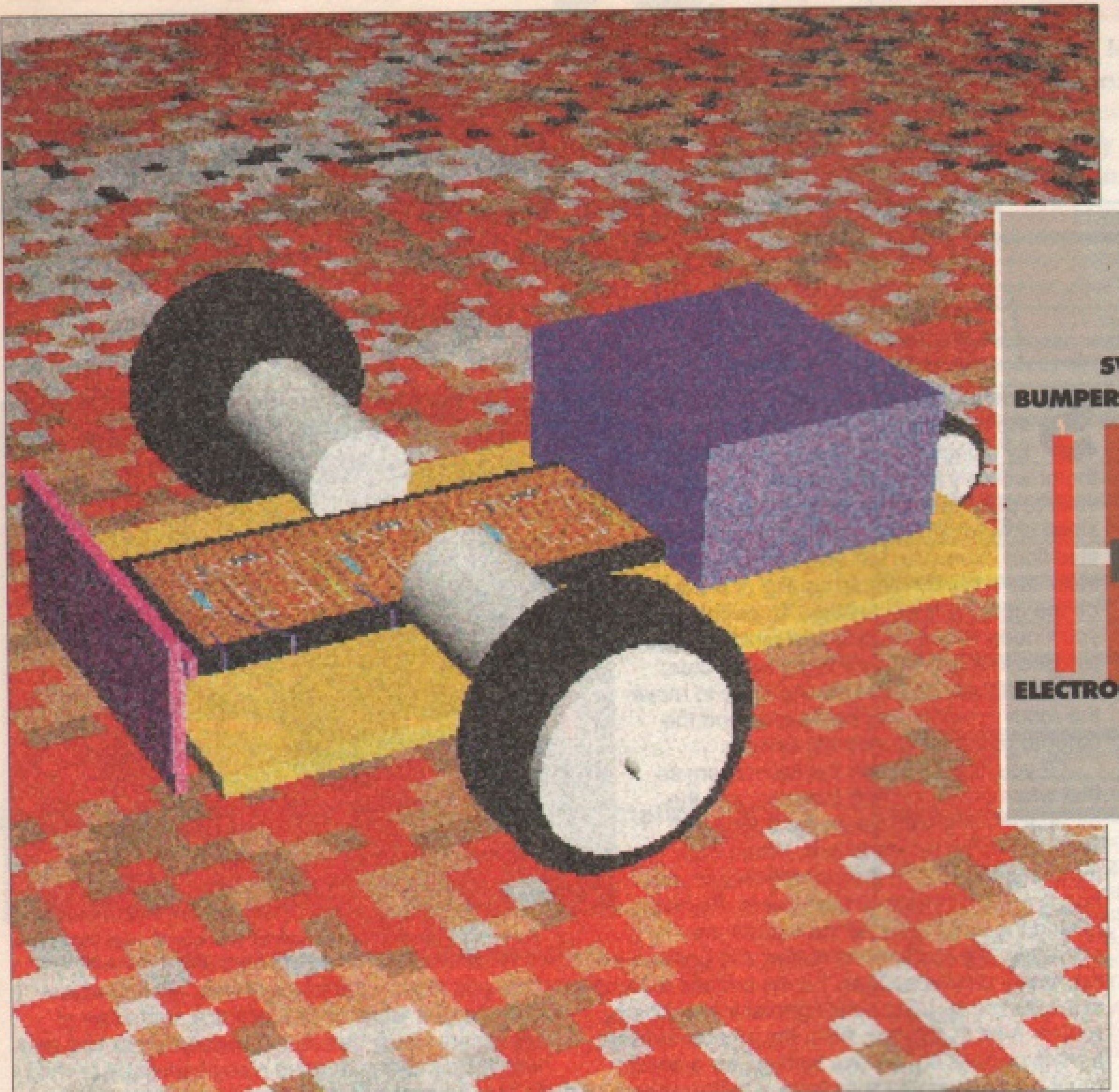


Figure 1: The wiring required to provide control two motors. With three relays you can chose the direction of each, and an overall on/off control.



» Using some 3D rendering software you can create a virtual prototype of your robot, just like the big car companies do!

is on and other is off does not arise. The motors can however operate in different directions (to provide a spinning movement), which is what the second and third relays govern.

Because of this 'all or nothing' system you only need three relays. If your robot requires the motors to operate completely individually you will probably need two relays for each motor – one to control the direction, the other to control the power.

You'll need to determine exactly the values required to drive your buggy around, as the orientation of the motors and how the voltages are connected will probably be different from my robot.

FEEDBACK

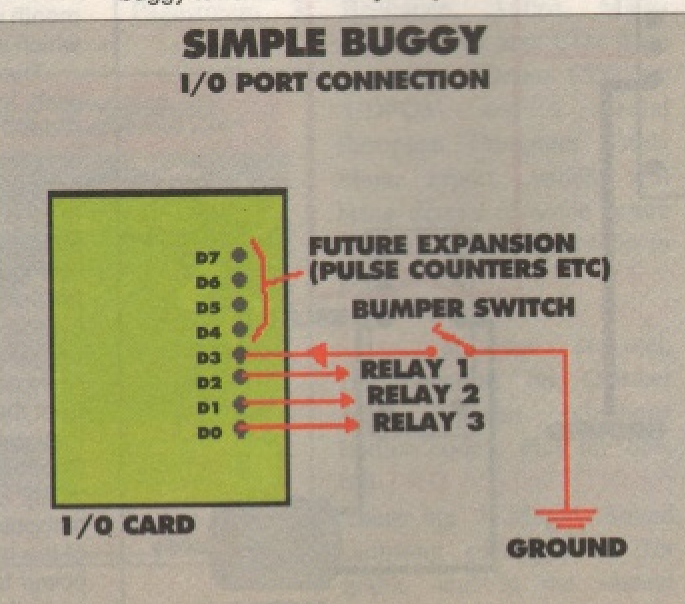
The trouble with our buggy is that there is very little in the way of feedback: none in fact. Here are some ways you can expand your robot to make it even more useful.

1. Switch

Adding a touch sensor to the robot is probably the simplest expansion you can make. Get hold of a miniature momentary push-to-make switch, and mount it on the front of the buggy in such a way that when it collides with a solid object the switch contacts are made. Now connect the switch to the Input/Output port as shown in last month's diagram (the switch is connected between ground and an input pin). With some careful programming, your robot will now know if it has walked into something, and will be able to reverse, change direction and try again. You might want to build a maze and then try to write a Robot control program which will lead your buggy to freedom.

2. Light Sensitive 'Eye'

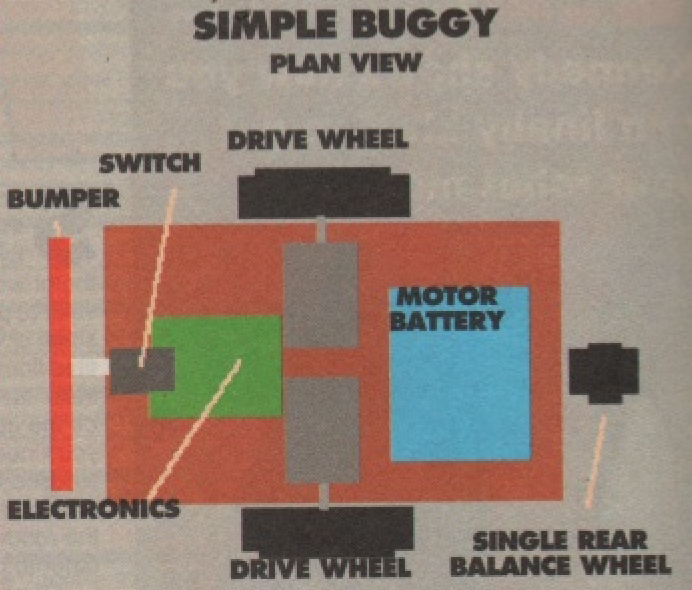
Remember the fun we had with the sampler project? Remember how we added a Light Sensitive Resistor to measure the degree of light or dark? Try mounting the LDR on the buggy and then programming the robot to follow dark or white lines drawn on the floor. Or write a program to move the buggy towards a nearby lamp.



Right: four pins of the In/Out port are utilised. The first three are defined as outputs and control the direction of the motors. The fourth is defined as an input and is connected to the bumper switch. When the buggy collides with something the switch is made and the I/O port value will alter.

PARTS

Input/Output board (see August CU Amiga), three (or more) relay control circuits (see September CU Amiga), two DC motors, Lego, Mecanno or similar Connection wire and solder.



From these sketchy schematics you should be able to build your own robot fairly easily. The main points are to notice are the position of the drive wheels (as central as possible), the free-moving balance wheel at the rear and the large battery needed to power the motors. The bumper at the front activates a push to make switch.

3. Pulse counter

When the buggy is moving around, it sometimes seems to slip or move too far. If you are relying on software delays to control how far the buggy has moved, these errors can soon mount up and before long the direction the buggy is facing and the direction the computer thinks the buggy is facing are two completely different things. I've found the best way around this problem is to add a pulse counter to the drive mechanism, to measure exactly how many rotations the wheels make. Pulse counters cost a couple of pounds, and consist of a light source and a light-sensitive device in a small package. There is a space for something to slide between the devices, and in here you arrange for a slotted disk to rotate in step with the drive wheels. Now your software can wait for, say, 30 pulses to pass for the robot to move 90 degrees, instead of counting to 1000.

4. Pen

Using a felt-tipped pen attached to a solenoid, the buggy can draw lines or shapes on pieces of paper placed on the floor. The solenoid can be programmed to move and so the pen can be raised and lowered. Very useful if you are trying to implement a Logo system.

CONCLUSION

That's about all the hardware I'm covering for the moment. The robot's design is where you can use your own ingenuity. If you come up with something clever, send us a picture and tell us how you did it. CU

NEXT MONTH

If you were wondering exactly how you were going to program your robot, John Kennedy has some good news: a complete programming language developed especially for all Amigas and CU Robots everywhere. It's based on FORTH, so if you want to get a head start nip down to your local library and get out *Starting FORTH* by Brodie.

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ADVERTISER INDEX



SOUND LAB

Join CU AMIGA's Mad Scientist Tony Horgan as he concocts weird and wobbly noises, and then calls it music. This month: he shows you how to make your Amiga sound like an analogue synth...

SOUND LAB



Hardfloor: creators of the monstrous Hardtrance Acperience techno anthem. Check the TB Resuscitation album for more.

THE 19 COMMAND

Just like all the other commands in *OctaMED*, the Sample Start Offset command (number 19) should be inserted in the block immediately to the right of the note and instrument number. See *Figure 2*. The databyte specifies the playback start point of the sample. This is counted in steps of 256 bytes, which equates to $100 in hexadecimal. You can use this to cue samples from precise points, but in this case all you need to do is gradually step up the value from one line to the next. If you get no sound, it's probably because you've set the databyte at too high a figure.

FIGURE 2: Add a beat and a strobing rhythm to your synth line and you're off and running.

ANALOGUE HEAVEN

They say dance music is only worth listening to in a club or a rave. There's no emotion, no feeling, it's just machine music. Oh yeah? Then how come I broke out into waves of goose-pimples and buckets of cold sweat yesterday evening, whilst listening to Hardfloor's latest on the train home? Because even the most mechanical techno, trance and hardcore can send shivers down your spine, bring tears to your eyes and make you pull embarrassing faces in public (completely unaided by intoxicants, I might add).

The thing is, it takes more than just a bass drum loop or a breakbeat to get the adrenaline rushing. Just what is it that twangs those internal strings, kickstarts the pulse and tickles the back of your eyeballs, even when you're stone cold sober? I'm afraid I can't answer that, but it's no coincidence that a lot of the most effective dance records make extensive use of analogue synths.

The biggest difference between analogue and digital synths, is that digital synths are geared towards reproducing the sounds of pianos, violins and other real instruments. Analogue synths on the other hand, have no shame. They're in their element when they're making far out noises that sound nothing like the real world has to offer. The other brilliant thing about them is that they produce pure waves, which are tops for beefy bass sounds.

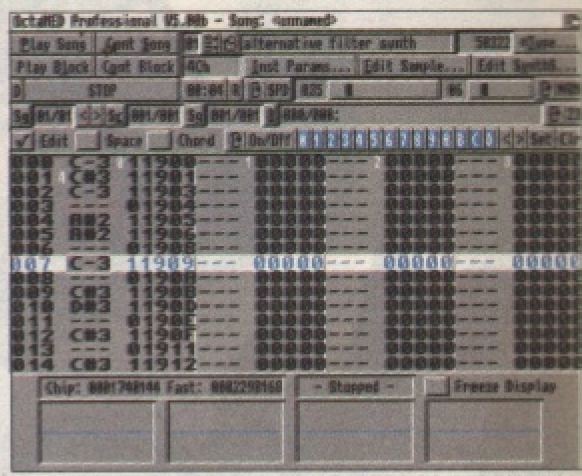
TB 303

If there's one sound that defines acid, it's the ever-changing burble of the Roland TB 303 Bassline synth. What makes this so special is the way that you can set it to play a bassline loop, and gradually increase the intensity of the sound from an inoffensive blob to a completely mad, distorted shriek, and then gradually bring it back down again, ready for another build-up. The last one rolled off the production line many moons ago, but you can still get hold of them secondhand for around £300. Quite a lot to pay for a monophonic bassline generator, you may be thinking. Well, if you can't stretch to that, you can simulate the effect with nothing more than your Amiga and a copy of *OctaMED*.

You'll find a TB 303 sample on one of this month's coverdisks. *OctaMED* is available from Seasoft Computing (tel: 0903 850378). If you've got a 1.3 Amiga, go for *OctaMED Version 4*. Anyone with a 2.04 or higher Amiga should get hold of Version 5

The key to simulating a full-on 303 attack, is *OctaMED*'s '19' command. This cunning little devil lets you change the start point of a sample. Instead of playing the sample from the start, you can set it playing from any point along the sound. Load up your 303 sample, and play it back with the keyboard. Work out a little riff and put it down on track one. Hit PLAY BLOCK to test it out.

To transform it from a normal bassline into something a bit spesh, enter command 19 into every line on the track, then graduate the values from 0 to 20 for instance (see *figure 1*). If you're using *OctaMED V5*, all you need to do is enter 'C-3 11900' as the top line, and 'C-3 11920' at the bottom of the block, make sure you're still in edit mode, and select the GENERIC SLIDE option from the EDIT menu. Users of Version 4 or below will have to do it manually. *OctaMED* uses hex values, but in this case you can get away with entering in decimal. When you play this back, you'll get the sound cued from the start, then a little way in, then from around half way, and so on. This gives you the effect of the sound being filtered and modulated as it is being played. To change the rate of the effect, change the values in bigger steps. Build it up slowly over a minute or so, or whip it up and down for a more hyperactive feel – experiment.



For the funkiest sounds around use the ' TB303 sample' from the samples directory on the coverdisk.

Alternatively, you could sample a series of variously filtered sounds, then string them together into a sequence to get the same effect. You'll have to listen out carefully if you're going to get these sounds from the more chart-orientated records, but it shouldn't be too difficult to find something suitable from your local independent record shop.

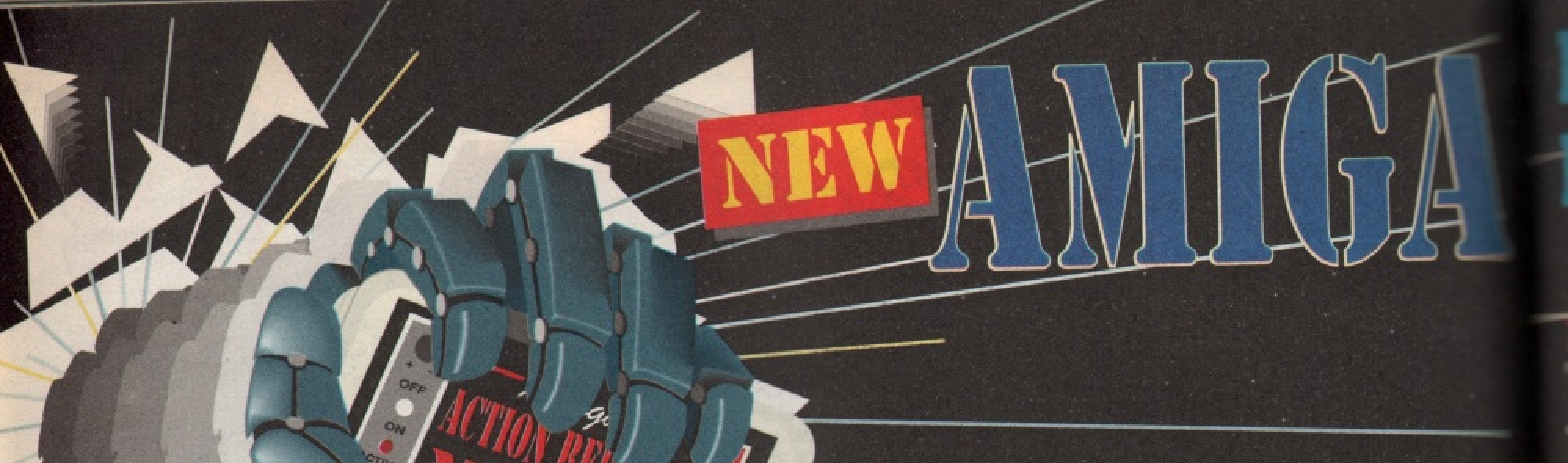
MORE IS MORE

Trance and hypnotic techno owe a lot to the technique of gradually building up the sound. You could maybe start with a bassline, then a few bars later introduce the high hats, then a rim, and work it all up to the full ticket. The problem with doing this on the Amiga, is that with just four tracks of samples, you can run out of voices before you're even halfway there. A way around this is to mix your drum sounds.

Set yourself up with all the drum samples you need, then make up combinations of kick and snare, kick and high hat, or whatever samples are cued at the same point. It can get a bit fiddly, but with a little practice you can use up to four or five sounds in one track. It's not the perfect way to program your beats, but it will leave you with the luxury of three spare tracks. This also has a big advantage over a breakbeat in that you can change it at will throughout the track, dropping bits out and throwing them back in whenever the time is right. CU

RECOMMENDED LISTENING

If you need a bit of inspiration, get an earful of anything by Brides Make Acid, Hardfloor, Rob Acid, Jam and Spoon, Future Sound of London, and anything on the Harthouse or Sapho labels. Alternatively, go into a specialist dance music shop, and ask for the one that goes 'Bleep bleep wibble wobble', and you'll end up with something good and squidgy.



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Two heads are better than one, so, this month, Mat's twisted the arm of regular columnist Jason Holborn to help with all your queries and conundrums.

WARRANTY WORRIES



I've recently bought my son an Amiga A1200 with a Commodore 1940 monitor which he hopes to use for programming, writing letters and a bit of computer art. However, there was a warranty card with instructions inside the box, which said that I should post the card off as soon as possible. If I do not send the warranty card off, will I still be covered by Commodore's on-site warranty?
Mr J. Brown, Bradford, Yorkshire.

The simple answer to this question is a big resounding 'no'! It's vitally important that as soon as you unpack your Amiga, you fill out the warranty registration card and return it to the address on the enclosed envelope. If you fail to send back your warranty and something does go wrong, you will not be eligible for on-site repair. So stop reading this and post the card off now!

CD CHARACTER



I bought an Amiga A1200 a few months ago and I have been eagerly awaiting the release of A1200-specific games but, to date, very few games worth mentioning have been released. Now that Commodore have started shipping the CD32, will software houses ignore the A1200 and produce AGA games on CD ROM only?

If this is the case, is it worth trading my A1200 for a CD32? If I do, what are the chances of Commodore releasing a keyboard and disk drive for the CD32?
Jonathan Harding, Bristol.

The lack of AGA-specific games is disappointing, especially when you consider that at the launch of the A1200, Commodore assured the Amiga community that over 20 AGA games were due for release by Christmas '92. To be fair, there are quite a few games that have been enhanced using the extra colours that the AGA chip set has to offer, but it's often rather difficult to spot the difference.

Most games programmers seem content only to expand the number of colours in the background's 'copper effects' without actually increasing the number of colours used in the game's graphics. Hardly the sort of state-of-the-art AGA games we were all hoping for!

I think the main reason that AGA games haven't been released is because Commodore told developers about the CD32 only a few months after the launch of the A1200. In order to get their CD32 wares out onto the market as soon as possible, many of the planned A1200 games were modified to take advantage of the CD format.

Hopefully, many CD32 games will filter through to the rest of us, but considering the extra hardware inside the CD32 (the new 'Planar' chip, for example) I wouldn't bet on it.

Help is at hand, however. Commodore have officially confirmed that a CD32 compatible CD-ROM drive will be launched for the A1200 sometime before Christmas.

The drive (which will connect to the A1200 via the machine's CPU slot) has the special 'Planar' chip built into its interface, so you will be able to run CD32 games without any difficulty or problems.

With this in mind, it certainly isn't worth selling your A1200 just to buy a CD32. To be perfectly honest, an A1200 equipped with a CD-ROM drive will be a considerably more powerful (and certainly more flexible) machine than a CD32.

Even if Commodore were to bring out a keyboard upgrade – which, at the time of writing, they have no plans to do – the A1200 would still be far more expandable.

BASIC GAMES



I am seriously considering buying a BASIC programming language for my A1200 so that I can write games. After taking a quick glimpse at the options available, it seems that there are only two worth considering: AMOS and Blitz Basic 2. I have heard that HiSoft are soon to release version 2 of its BASIC compiler, but will this support the same sort of features as AMOS and Blitz Basic? If not, which should I go for?
Denzil Smith, Dundee.

If games programming is your primary concern, then HiSoft Basic (even HiSoft Basic 2) is certainly not the best bet. HiSoft's implementation is aimed fairly and squarely at Amiga programmers that wish to produce 'operating system legal' code that runs under Intuition.

As a result, it's probably better equipped to handle 'serious' programs like utilities and databases, etc. Blitz Basic 2 can handle Intuition too, but it's geared too much towards games programming to be a serious applications programming tool.

Choosing between AMOS and Blitz Basic 2 is a rather contentious issue. Although Blitz certainly produces faster code (three times faster), it's not exactly a friendly language.

This wouldn't be so bad if the Blitz manuals were well written, but unfortunately they're absolutely rubbish! If, on the other hand, you feel that you're knowledgeable enough to wade through the manuals and figure Blitz out for yourself, then it's a very powerful language.

AMOS may be showing its age these days, but no one could possibly claim that it's no longer a worthy contender. In the right hands, AMOS is still capable of great things (especially AMOS Professional).

What's more, AMOS is so easy to use that just about anyone can churn out 'hardware bashing' code with ease. As a result, AMOS is definitely the best bet for beginners.

FRENCH LETTER



I would like to know if any software exists that will allow me to covert PICT images from my Apple Macintosh to Amiga IFF format, so that I can load these files into *Deluxe Paint 4* AGA.
P. Claudes, Marsailles, France

There are three programs that will do the job: ASDG's *Art Department Professional*, GVP's *ImageFX* and ACS' *RasterLink*. All three will handle PICT format files and a number of other image formats including: TIFF, PCX, GIF and JPEG.

MONITOR MATTERS



Having owned an Amiga 500 Plus for over two years now, I have finally decided to treat myself to a monitor. Looking through the advertisements in CU Amiga, there seems to be a bewildering number of different types of monitor available. What's the difference between a 'single scan' and a 'multisync' monitor? Also, what's the difference between the Commodore 1084, 1940 and 1942 monitors? Being quite a loyal Commodore owner, I'd like to buy a Commodore monitor. Which of these three would you recommend?
Paul Maslin, Bournemouth.

Amiga monitors come in primarily three different flavours – single scan, dual sync and multisync. The only real difference between these monitors is the range of video signal frequencies that they can handle.

As their names suggest, a single scan monitor can only cope with a single video frequency, but 'dual sync' and 'multisync' monitors can handle more than just a single video frequency.

Standard non-AGA Amigas are only capable of producing video signals at a vertical frequency of 50Hz and a horizontal frequency of 15KHz. As a result, a single scan monitor that can handle these frequencies is all that you will need.

Even if you buy a multisync, the monitor will only ever run in 15KHz by 50Hz mode. For your A500, therefore, a monitor like the good old 1084 is definitely more than good enough.

If you were to buy yourself an A1200 or an A4000, however, then a 'dualsync' like the 1940 and 1942 monitors would perhaps be a better bet. Both of these machines include a software-based deinterlacing feature that uses a higher video frequency to remove the flicker normally associated with high resolution displays.

If you tried to display one of these deinterlaced 'DBL' screen modes on a single-scan monitor, all you'd get would be a garbled

mess because the monitor would be unable to handle the higher frequency signal.

VIRUS ALERT!



I've recently installed a copy of Richard Veldhuis' *Virus Checker 6.28* onto my Amiga 600 hard drive so that whenever Workbench is booted up, *Virus Checker* runs in the background.

However, when I insert certain disks (game disks, for example), *Virus Checker* informs me that the disk has an 'unknown bootblock'. Does this mean that my games have become infected with a virus? The funny thing is, they still work perfectly fine if I reboot the Amiga!

Chris Fox, Barry Island, Wales

Just because a virus checker reports that a boot block is suspect, it does not necessarily mean that you have a virus on that disk. Virus checkers simply work by checking that the boot block of a disk is in standard AmigaDOS format.

Many games, however, use their own special boot blocks that have to be present in order for the game to load. If you let your virus checker loose on a game's bootblock, chances are that the game will no longer load.

A good rule of thumb here is that if your games work fine, then don't touch them. If they no longer work, however, do not even let them near your Amiga!

DECISIONS, DECISIONS



Having recently come into some money, I've decided to sell my Amiga 600 and buy one of those swish new AGA-based machines.

Being a bit of a skinflint at heart, however, I must ask whether it is really worth buying the A4000/030 in preference to the Amiga A1200?

How much faster is the A4000? Can I upgrade the A1200 to a similar specification?

Mr. Pang, Reading

Which Amiga you buy depends largely on the sort of things you wish to use it for. If you only ever intend playing games, tapping out the odd letter or two and messing around with *DPaint*, then an A1200 is more than man enough for the job. With its 68020 processor and massive 2Mbs of RAM, even the standard A1200 is almost three times faster than your old Amiga 600. Add a 32-bit RAM expansion to it and the speed increase will be even greater.

The A4000/030 is really aimed at the sort of user that uses their Amigas for more speed-intensive applications like ray tracing, desktop publishing and high end graphics.

The A4000's 68030 processor runs at approximately four times the speed of a standard Amiga 1200 (that's over 10 times the speed of your A600!).

The A4000 also offers a far greater scope for expansion too, thanks to its PC-like casing that can accept add-ons in the form of plug-in cards. Quite a few of the more specialised expansions such as 24-bit video cards are only available for the A4000, so you may feel somewhat held back if this sort of work is your forte.

If expansion isn't that important to you, then you can still take the A1200 up (and beyond!) the performance of the A4000/030. A number of hardware manufacturers have released processor accelerators for the A1200 based around the 68030 processor. MicroBotic's new MBX1230XA, for example, incorporates a 50MHz 68030 chip that runs rings around the A4000/030.

WHICH WORKBENCH?



After months of deliberation, I've finally decided to upgrade my Kickstart 1.2-based A500 (ancient or what!) to the latest release of *Workbench*. Most of my friends have upgraded their machines to *Workbench 2.0*, but I understand that even that is now out of date with the release of *Workbench 3.0*! Can I upgrade my A500 to *Workbench 3.0*? If so, where can I get it and how much does it cost?

George Brown, Bradford On Avon

Unfortunately, it's currently not possible to upgrade any pre-AGA Amigas to *Workbench 3.0* simply because *Workbench 3.0* has been written to take advantage of the AGA chipset. As a result, it's tied in very closely with the new chip set.

At the moment, the newest version of Workbench that can be fitted to

»

» the A500 is *Workbench 2.1*, a slightly modified version of *Workbench 2.0* that includes a couple of extra features borrowed from *Workbench 3.0* (the 'CrossDOS' commodity, for example).

Commodore are soon to release *Workbench version 3.1* which, rumour has it, will work on all Amigas, not just AGA-based machines.

Although specific details are a little thin on the ground, the only new feature in *Workbench 3.1* is the device driver needed to handle a CD-ROM drive.

MONEY SPINNER



I've written a game in AMOS which – in my opinion at least – is good enough to be sold commercially. Being rather new to business matters, how would I go about selling my game to a software house?

I notice in the AMOS manual that I have to credit AMOS. Considering the stories I've heard of software houses refusing games simply because they have been written in AMOS, is there any way of getting around this?

D. Curruthers, Poole, Dorset

Getting any type of game accepted by a software house is quite difficult. Unless your game offers something substantially different from previous game genres, the chances of a software house taking it under their wings are rather slim.

That's not to say that tried and tested formulas don't sell; if the software house just happens to be looking for a game of that type or the game is so damned playable that everybody including the cleaner can't stop playing it, then the software house may possibly take it on.

What you must consider is that software houses receive hundreds of submissions which they have to wade through every day. In order to give your game a better chance of being noticed, make it as easy to load and play as possible and include brief yet concise instructions. It's also worth checking out the software house's back catalogue to see the sort of games that they publish. If they specialise in adventure games, for example, then there's little point in sending them an arcade game.

Similarly, a company like Team 17 is hardly going to be interested in an adventure game unless (once again) it is revolutionary.

Software houses still seem to shun games written using so called 'game creators' like AMOS. Europress no longer insist that all AMOS-produced games credit AMOS, so you're free to hide the fact that your game was written in AMOS from both the software house and the buying public.

Europress do reserve the right, however, to publicise the fact that a game was written in AMOS two months after its release.

Don't worry about this annoying the software house, if they made a bundle out of your games, the chances of them throwing a fit is very slim!

HARD DRIVE QUANDRY



I have upgraded to an A1200 and wish to install a hard drive. If I buy a drive, will I need to obtain some sort of partitioning and formatting software to set it up or are all A1200 hard drives set up already?

Also, what's the easiest way of backing up a hard drive? A friend of mine backs up his hard drive to floppy disks, but even he admits that its a real pain of a job (especially if you have a rather large drive!).

Bob Tucker, Southampton.

Commodore don't actually bundle the software you need to set up a hard drive on the A1200, unlike the A4000. If you buy a hard drive from a third-party vendor, you should therefore ensure that they also supply you with a copy of Commodore's own 'HD Install' disk. This disk contains all the programs you need to format your drive, partition it and even install Workbench 3.0 in one foul swoop.

Some vendors do supply preinstalled drives that have already been set up, but it's worth getting the Install disk just in case you have to reinstall the disk yourself.

Backing up Amiga hard drives used to be a pain unless you were fortunate enough to be able to afford a tape streamer, but the life of the hard drive owner has become somewhat easier since Power Computing (Tel: 0234 273000) released its excellent 'Video Back-Up' system.

This package (which consists of a box that connects to the rear of the Amiga) allows you to back-up Amiga hard drives to a video tape by connecting the Amiga and your VCR together.

You do really need a decent VCR and the best quality video tape you can afford to ensure reliable results, but I certainly haven't heard any horror stories of the Video Back-Up system losing hard disk back-ups.

MEMORY MISDEMEANOUR



I have been considering modifying my Amiga A500 so that it offers 1Mb of chip memory. However, I am concerned about the compatibility aspect. Is it possible to add a switch that could change from 1Mb of chip and 0.5Mb of chip memory to just 0.5Mb of chip and 0.5Mb of fast RAM?

Paul Simmons, Bolton

Very few programs have problems with different chip memory configurations these days, so you're unlikely to encounter problems once the modifications have been made.

Older programs written when the 1.2-based Amiga A1000 was still king do have problems with 1Mb of chip RAM, but very few of them still exist. Therefore, to answer your question, there's very little point in the modification that you suggest.

CAD OUT OF THE BAG



Could you please advise me on a decent Computer Aided Design program that can be used for electrical engineering, circuit design, etc?

A. Cox, Leeds.

There used to be a number of very good CAD programs designed specifically for circuit board design called *PC-CAD* and *PRO-BOARD*, but both companies have since pulled out of the Amiga marketplace.

A good alternative, however, is Digital Multimedia's brilliant *X-CAD 2000* and *X-CAD 3000* CAD programs which offer an optional symbol set containing all the circuit board symbols you require.

EXPANSION PROBLEMS



When I bought my Amiga A1200, I assumed that it would be just as expandable as my old Amiga 500, but experience is starting to show this not to be true. Although the A1200's trap-door CPU slot can handle just about anything from a simple RAM expansion to a full blown processor accelerator, I can see no way of using more than one expansion at once. Is there any way to 'chain' A1200 expansions in the same way as you could link together several A500 CPU slot expansions?

Iain Mutch, Norfolk.

The issue of A1200 expansion certainly seems to be causing more than a few fits of frustration for users that wish to expand their machines beyond a fairly basic configuration. Although the A1200's CPU slot can cope with a variety of different expansions, only a single card can be connected internally. I'm surprised that none of the entèrprising companies that have brought us such great products in the past have come up with some form of expansion chassis that allows A1200 owners to connect more than one expansion card at once. After all, there's certainly a need!

The impending release of the new CD32 compatible CD-ROM drive for the A1200 is certainly going to make the situation a lot worse. Commodore themselves admit that it will not be possible to use the drive in conjunction with a 32-bit RAM expansion such as Power Computing's (Tel: 0234 273000) excellent PC1204 card. This really is unacceptable. If Commodore expect A1200 owners to keep connecting and then reconnecting CPU cards, then not only are they asking for trouble, but they should gear themselves up for a lot of dead or dying machines!

PC INVESTIGATOR



I recently managed to steal my father's PC VGA monitor (don't worry – he hardly ever uses his machine so I doubt whether he will notice). How can I connect this monitor to my A1200? Is there much of a difference between this and a good SCART TV?

Kevin Daniels, Hereford.

VGA monitors will not connect directly to the Amiga unless you lay your hands on an adaptor like those bundled with Commodore's own 1940, 1942 and 1960 multisync monitors. Even if you do get your hands on the adaptor (which is no mean feat in itself!), a VGA monitor will only be able to handle the special VGA screen modes offered by the Amiga A1200.

If you try to run a game, for example, the monitor will not be able to handle the video frequencies and all you'll get will be a garbled mess. For word processing, the VGA monitor will be great (and yes, it's considerably better than a SCART TV!), but keep that TV on hand for playing games!

CHECKSUM CHARLIE.



When using packages such as *D-Paint 4* and *Pro-Text version 5.5* and I try to to save off my files to my external drive I quite often get disk error messages flung at me, sometimes a system requestor pops up onto the

screen telling me to use diskdoctor and the program then crashes. When I try to re-access the disk I then get a message saying BAD DISK. This only seems to occur after I have quite successfully saved a few files on to that disk. When I examine the disk using a PD program like *D-Copy* I find that certain tracks on the disk have checksum errors. Can you throw any light on why this keeps happening?
Charles Astle, S.W. London.

There are a number of reasons why this could be happening. It sounds as if your internal disk drive is starting to die, but it could equally be caused by sub-standard disks. If you have an external drive, format one of your disks and then check it for errors using *D-Copy* in drive zero and then repeat the process using drive one. If both drives report the same errors, then your disks are at fault. If not, then it may be time to get out your cheque book and treat yourself (and your Amiga) to a new internal drive. Expect to pay around £40.

PURE AND SIMPLE



I cannot seem to be able to make some standard Amiga DOS commands resident ('CD' and 'DIR', for example) so that I can access them without having to insert the Workbench disk every time. I am obviously doing something wrong. Any ideas?
Keith Goodwin, Glasgow.

For any AmigaDOS command to be made resident, it must have its pure bit set using the AmigaDOS 'Protect' command. If, for example, you wanted to make the AmigaDOS 'Dir' command resident, all you'd have to do is to type 'Protect c:DIR +p'. Once the bit has been set, call the 'Resident' command again.

IDENTITY CRISIS



I have recently treated my A1200 Amiga to a Fujitsu 84 Mb hard drive. I partitioned the drive into two 40Mb partitions using a copy of HDToolBox from my old *Workbench v2.04*. The program recognises the drive as a Fujitsu unit and it also gets the size of the drive correct but it classes it as a SCSI device. Does the Workbench program class SCSI and IDE drives as the same or will this cause me problems in the future?
Simon Bray, Wolverhampton.

The installation of the IDE interface into the A600 and A1200 Amigas was something of a bodge on Commodore's part.

Instead of writing custom IDE drivers, Commodore simply modified its existing hard drive code so that it was fooled into thinking that it was actually accessing a SCSI interface rather than an IDE interface. It may not be the most elegant piece of software engineering, but at least it works fairly well. This rather confusing situation certainly shouldn't cause any problems in terms of future expansion. Already a couple of Amiga hardware manufacturers have released SCSI interfaces for the A1200 that work perfectly along side IDE drives.

What you must remember is that hardware manufacturers that are producing add-ons for the A1200 know that their hardware must be compatible with the standard expansion options of the basic A1200. As a result, the only real problems that you might encounter are incompatibility problems between two different third party devices.

ELECTROPHOBIA



I am thinking of upgrading my Amiga A500 to Workbench 2.0. I have absolutely no knowledge of electronics whatsoever. In fact, it scares me silly, so I would have any upgrading done by a specialist firm. So that I have some knowledge regarding prices, I would appreciate it if you could answer the following questions:
1. What board modifications, new custom chips, ROM, etc would I need to upgrade to Workbench 2.0? Obviously 1Mb of chip RAM would be nice.
2. Would a ROM Sharer be a wise option to consider? Given my phobia of all things electronic, a keyboard operated sharer would stop me breaking into a cold sweat at the thought of lifting the lid on my machine.
Bernard Bloxham, Newent, Glos.

1. The only hardware modifications that need to be carried out to upgrade an Amiga 500 to run Workbench 2.0 is the installation of a new Kickstart chip. Modifying the machine to handle 1Mb of chip RAM is a definite must if you intend using the machine seriously, but your machine will still run Workbench 2.0 perfectly ok without the upgrade.
2. ROM sharers have become somewhat obsolete since Commodore gave us permission to put the program 'ReloKick' on our coverdisk. If you missed that issue, ReloKick is basically a program that loads the Kickstart 1.3 code held on disk as a binary file into the Amiga's memory and then changes a few system vectors so that when the machine is reset, it boots up as a 1.3-based Amiga. You'll generally find that games that don't run under Workbench 2.0 will run once ReloKick has been installed.

MODEM MISERY



I've just treated myself to a Supra 2400zi internal modem card for my Amiga 4000/030 but despite hours of frustrating experimentation, I still can't get *NComm* to recognise it. I've tried using different phone leads and I've even tried plugging the modem into a different phone socket using a very long (BT approved!) extension cable, but still *NComm* refuses to work with my Supra Modem. Is the modem faulty or is it me that has a fuse loose?
Max BerryBath, Avon.

Because the Supra 2400zi is an internal modem, it communicates with communications packages like *NComm* in a slightly different way. By default, programs like *NComm* talk to your modem using the standard serial port device driver 'serial.device' that you'll find in the DEVS: directory of your boot disk.

To get your 2400zi to talk to *NComm*, however, you need to copy the file 'modem0.device' from the disk bundled with your modem to the Devs: directory of your boot disk. Once you've done this, you need to tell NComm that it should start using modem0.device instead of the standard device driver. To do this, boot up *NComm* and then click on the 'Select Device' option from the pull-down menus. A simple string gadget containing the line 'serial.device' should pop up onto the screen. Change this to modem0.device and then save your *NComm* preferences back to disk. *NComm* should now work perfectly well with your modem.

SOUND CONVERT



Having been a PC user for more years than I dare to mention, I've finally taken the plunge and taken the big leap from MSDOS to the Amiga 4000/030. Although quite a few of my friends have gone in the opposite direction (who wants to run *Lotus* anyway!), I was attracted to the Amiga by its obvious talents for video work (I intend buying myself a genlock as soon as I can raise the cash!), graphics (isn't *DPaint 4* AGA great!) and music.

With this in mind, I'd like to ask you a couple of questions.

1. All the sound samplers that I've seen for the Amiga so far seem to be 8-bit only which is rather limiting. Are there any 16-bit samplers available for the Amiga and if so, do any MIDI sequencers support 16-bit samples?

2. Although the Amiga's sound quality is certainly a lot better than the PC's rather naff built in sound capabilities, is there anything like the AD-Lib or SoundBlaster cards available for the Amiga?

3. I want to be able to tie my MIDI tracks in with graphics and animations that I've created in *DPaint*. Can you recommend a package that will be able to handle this?
Daniel Booth, Swansea.

1. There are a couple of 16-bit samplers available for the Amiga but they tend to be either very expensive or just plain naff. If you need a sampler that offers all the thrills of PC programs like 'SADiE',then check out SunRize Industries AD1016 sampler - it offers full 16-bit resolution and can sample in stereo direct to a hard disk.

If your budget is somewhat leaner, however, then the only other option is MicroDeal's Clarity 16, a small external box that connects to the Amiga via the machine's parallel port. Selling for just £150. Clarity offers 16-bit resolution too, but the sound quality sometimes leaves a lot to be desired. Rumour has it that Power Computing are soon to release a 16-bit sampler themselves which - to quote Power's Mark Arnold - will 'blow your socks off'. Rest assured that as soon as it is released, we'll be reviewing it!

2. Because the Amiga's sound capabilities are so good when compared to other machines, Amiga hardware manufacturers have been slow to produce sound cards along the same lines as Adlib for the Amiga. The only one that I know of is Blue Ribbon's 'One Stop Music Shop' which is essentially an Emu Systems 'Proteus 2' module on a card. It won't work with all sequencers however – to date, the card can only be used with Blue Ribbon's own *Bars & Pipes Professional 2*, but I'm sure other music software vendors will be quick to catch on.3.

3. Virtually all sequencers use their own file formats for storing performance data, but if you convert your scores to MFF format, you can tie them in with graphics and animations using a program called 'ShowMaker' from Gold Disk (they of *ProPage* fame).

Th th th th th th that's all folks!
Write to us at : Q&A, CU Amiga, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.

WIRED WORLD

All Comms users need to know about archiving otherwise it will cost them a lot of time and money. John Armitage explains.



JPEG compression is excellent for one-offs but continued use will lead to image degradation.

Archiving is an almost magical thing. It sounds impossible; how can information be 'squeezed' down so it takes up less space? How, for example, can a textfile be compressed and then expanded again without losing a single letter? Or how can a photographic-quality picture be crunched to a tenth of its original size, without any noticeable quality loss?

LOSELESS COMPRESSION

Computer programs are fragile things; change a single bit in a million and the computer can crash instantly. Therefore, when compressing programs, text and important data, it is essential that none of the information is lost. Run length encoding is one of few compression techniques which ensures that none of the information goes astray. It is one of the simplest compression techniques and is used in standard Amiga ILBM (picture) IFF files.

In the case of a purely black low resolution bitmap which consists of 256 (or 200 NTSC) lines of zeros, run length encoding checks to see if there are several occurrences of the same value and rather than write 256 by 320 zeros to file and storing each byte in turn, the software counts how many zeros occur on the line. In this case 320, as there are 320 pixels across a low-resolution screen. The first two numbers in the output file would therefore consist of 0 and 320, which means that there are 320 occurrences of 0.

Decoding the data is easy, simply create a loop and repeat the first number until the counter reaches the second number. Every Amiga art program performs this compression and decompression automatically every time you save or load a picture.

If your art program can switch off the compression (such as *PixMate*), try saving the same image with and without the compression program to see the differences in its size.

Specially-written compression programs, such as *ARC, LHARC, ZOO* and so on, do make use of run length compression, but they use other means as well. A technique known as Huffman encoding compresses data by constructing a special table to store common multiple occurrences. Other algorithms, such as LZH, are even better at crunching data. Best results are always obtained when compressing data which has yet to be compressed. So, you should save the image in uncompressed format, first, to keep the quality.

LOSSY COMPRESSION

Sometimes, it isn't always necessary to store every possible bit in a data file. Some compression programs will throw away the bits that they consider are not essential to the file – hence the term lossy compression. For example, a hi-res 24bit picture in uncompressed form will take 960K of information (almost a megabyte). Surely, we could lose a bit here or there without the image becoming garbage? The difficult part is choosing which bits we can do without. JPEG (Joint Photographic Experts Group) is one of the lossy compression programs which seem to work extremely well.

JPEG works by splitting the image into many squares and then performing a DCT (Discrete-cosine Transform) on the data. This highly mathematical process will alter the data from being only colour-based to become frequency-based. The compression method will then discard the frequencies which it reckons we won't miss, and then does some standard crunching.

The range of frequencies which are thrown away determines how much damage is done to the original image, but in most cases you can obtain at least a 10:1 compression with virtually no ill effects to the image.

JPEG works best with very detailed images, and applying it to a simple bitmap – say a copy of the Workbench screen – can result in the file size actually going up. JPEG is ideal for sending pictures via modem. However, because it discards information it is not the best method for archiving images and saving a file in JPEG format more than once can introduce a rather unpleasant noise.

You may have heard a lot about MPEG which is to JPEG what Amiga Anim files are to ILBMs. When a sequence of images, such as digitised live video, is stored in MPEG format, the compression algorithm uses its knowledge of what data has been displayed in the past and what data is to be displayed in the future for quite dramatic space saving of 50:1.

This method is ideally suited to storing films on CD-ROM, and has been adopted by Commodore in the hot new CD32 as a soon-to-be-released-honest add-on cartridge.

AUTOMATIC COMPRESSION

Before you can use a compressed file, you need to run it through a decompression program. Most dedicated programs, such as LHARC, provide both compression and decompression routines – you select which by including extra options on the Command Line Interface. Several Amiga programs exist which can automate this process for you. *PowerPacker* is one of the best and we even gave it away with the May 1992 issue of CU AMIGA. A program which has been PowerPacked will look like any other except that it will be a lot smaller. When you click on it to run it, the compression will take place automatically and the program will run.

PowerPacker is a great program to have around if you are still using floppies or if your hard disk is getting a bit cramped for space. Extensions are available which will make other programs save and load in PowerPacked format. So, for example, your paint program could save and load crunched files automatically. Using a program like *PowerPacker* a lot is akin to using a *Disk Stacker*-type program which PC owners get by with. If you have bought any serious software recently, you'll have met the Commodore *Installer* program which is a brilliant way to standardise any juggling about with floppies when installing new software onto your hard disk. Most programs get *Installer* to make use of a compression program in order to squeeze the program's data onto as few floppies as possible, so you have probably used a compression program without even knowing it.

HARDWARE COMPRESSION

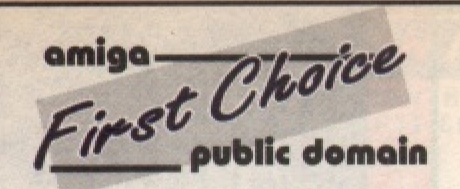
If you see a modem which has MNP5 written on it you've found some hardware compression algorithms. This modem will accept data in chunks, and then transmits a single key byte instead – rather like run length compression. This works best with raw, uncompressed data, so if you are sending text files via an MNP5 modem you will probably be better off not to crunch it first. MNP5 seems to be optimised to work with source code and text files rather than image data. However, there is talk of crunching techniques being added to newer versions of Workbench, in order to speed up floppy disks and provide more space.

So hopefully now you know all there is to know about archiving, so get compressing!! CU

COMPRESSION AND COMMS

As a Comms user, compression can save you a lot of time and money. Every second your modem is on-line, you pay BT so it makes sense to limit this as much as possible. Here are some money-saving hints:

1. When uploading or downloading images, always use JPEG at about 70% if the picture is detailed.
2. If the image is a simple bitmap, save it uncompressed and then put it through a program such as LHA to crunch it.
3. Crunch complicated text files (such as long articles, DTP files or AmigaGuide documents) with LHA before uploading.
4. If your modem has MNP5, send short text or source files in raw format.
5. Be very careful of viruses – a program which contains a virus can be compressed like any other. The virus can lie dormant until the host program is uncompressed.



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GAMES

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G011 - AIR ACE 2 - A great World War 2 shoot em up.
G013 - THE REVENGE - Play ED-209 from Robocop in this violent shoot em up.
G015 - MEGABALL - A game that has received excellent reviews.
G016 - SIMPSONS - Televisions wacky family brought to life in this shoot em up construction kit game.
G020 - LAME ST-PORTS - A space invaders type game, the object being to defeat Atari.
G021 - MASTER OF THE TOWN - The aim of this game is to cause as much damage as possible.
G025 - DRAGONS CAVE - A dungeon master style puzzle game.
G026 - DOWN HILL CHALLENGE - Good ski simulater.
G028 - PIPELINE - Classic game but too fast on A1200/A4000 due to superior processor.
G039 - SMURFHUNT - Plenty of gun power in this shoot em up.
G040 - PARADOX - Funky puzzle game.
G043 - WIBBLE WORLD GIDDY - A superb platform game. This is one of the best public domain games ever.
G047 - SUPER PAKMAN - If you like Pak games, then get this!!! The best version to date.
G048 - NEIGHBOURS - (2 disks) An excellent graphic adventure, probably the best ever in PD.
G049 - FIGHTING WARRIORS - Budget version of Streetfighter 2 with good graphics.
G050 - BOMB JACKY - The spectrum classic with vastly improved graphics and sound.
G055 - TEXAS CHAINSAW MASSACRE - Inspired by a true story.
G056 - 18 HOLE GOLF - The first ever public domain golf game, Great fun. (2 disks)
G057 - SPACE INVADERS 2 - A revised version of the classic game.
G059 - AMOS CRICKET - A good cricket simulater written in Amos.
G060 - TRON 2 - If you liked the original, then you can't miss this update. Faster and improved presentation.
G061 - ESCAPE - The aim of this excellent game is to run over tiles pushing specific ones down to open gates which allow you to reach the exit. Do it within a time limit to progress.
G062 - DR. MARIO - Similar to a NES game of similar name but better graphics.
G063 - ASSAULT - This average game involves you shooting all the characters that pop up in the windows.
G064 - DEATH BINGERS IN SPACE - A Xenon style shoot em up.
G065 - ZOMBIE APOCALYPSE - Good fun with lots of blood and guts.
G066 - STARIANS - Bizarre platform game.
G067 - SUPER SKODA CHALLENGE - A good game for up to four players with track editor etc.
G068 - PREMIER PICKS - Very unique football management game, very well presented.
G069 - BILLY BURGLAR - Dodge lights to escape from prison.
G070 - AMIGABOY - The n game Tetris is widely regarded at its best on the Gameboy. It has now been perfectly converted, with exact visual representation.
G071 - ACT OF WAR - A game of similar style to risk.
G072 - ADAMS FAMILY QUIZ - How much do you know?
G073 - PARACHUTE JOUST - Guide the skydiver to the ground.
G074 - CARD SHARP - Various card games.
G075 - JEWL - A brilliant game.
G076 - TOP SECRET - Sorry, can't tell you!!!
G077 - JELLY QUEST - This game by David McGuire was described by Amiga Power quote "It's a superior brand of PD puzzle game, and its looks can only be described as - dead lush!" It went on to receive a 4 out of 5 star rating.
G078 - VENUS INVADERS - Excellent new version of space invaders.
G079 - THE RIGHT WAY - A great lemmings clone.
G080 - SUPER PRIX - A birds-eye-view racing game.
G081 - PATIENCE - The best public domain version of this card game.

UTILITIES

U001 - THE ULTIMATE BACKUP DISK - All the very best public domain copiers including DCopy, Tetracopy and XCopy.
U013 - BUSINESS CARD MAKER - A utility that can give professional results for use with any printer.
U021 - SYSTEM X - A telephone directory on disk. It even dials the number!!!
U136 - 600 BUSINESS LETTERS - Over 600 letters of basic format ready for quick and simple modification in any word processor.
U139 - PRINTER DRIVERS DISK - An excellent selection of drivers to get your printer working perfectly.
U140 - LABEL MAKER - Excellent utility allowing you to make your own disk labels. We have added several fonts to give you more design options.
U153 - MULTIPLAYER - Can play virtually any type of music module.
U167 - WINDOWBENCH - A replacement for Workbench V1.3 in the style of Microsoft Windows.
U168 - GAME TAMER V2.2 - Loads of cheats (over 250) for use in many top games.
U176 - UNDERSTANDING AMOS - A very useful learning aid.
U178 - AGRAPH - Create all kinds of pie charts, bar charts and line graphs.
U179 - CLI TUTOR - Loads of hints and tips.
U180 - DISK OPTIMISER - Speeds up loading by up to 15 times.
U181 - FORMS UNLIMITED - Create your own invoices and other forms with this neat utility.
U183 - MAGNUM - Create your own disk based magazine.
U184 - EDWORD - Excellent text editor.
U185 - POOLS PREDICTION - If you need more help (or money) try this disk.
U186 - VMORPH V2.0 - Excellent utility that allows you to create morph/warp animation. Requires 1MB.
U187 - THE MENU DISK - If you are interested in creating your own animations etc. then get this disk. Its perfect for added presentation.
U188 - CLUB LEAGUE - A utility that allows you to edit and keep track of your teams division and league status.
U189 - SCREEN BLANKERS - A disk packed with screen blankers.
U190 - THE LITTLE OFFICE - One of the best small business programs available at the moment. Very popular.
U191 - VOICE CLI V5.5 - This utility allows you to control CLI with speech.
U192 - ACCOUNT MASTER - Written in Amos this is a very popular business utility of excellent quality.
U193 - SOFTWARE LISTER - This program is designed to keep track of your software collection.
U194 - DISKPRINT V3.5 - An integrated database and disk label printing utility.
U195 - RACE V1.6 - A disk that will work out the chance of a horse winning a race.
U196 - DRAW MAP V4.1 - There are two versions. Please state 1MB or 2MB. It allows you to create 2D and 3D maps.
U197 - FOOTBALL LEAGUE EDITOR V1.1 - As soon as the results come in, you can monitor your teams latest position.
U198 - GOLF SCORES V1.8 - It can record the results of every round you play, store them and give an overall electronic score.
U199 - ANTI FLICKER - An aid to stop the flicker in Hi-Res mode during some programs operations.
U200 - AMICASH BANKIN - If you have a small business, this program is the best of its nature and highly recommended.
U201 - PUNT PROGRAM - Another prediction aid for the horses.
U202 - MONEY MANAGEMENT - Home accounts package capable of handling up to 12 different accounts.
U203 - EASY CALC V1.0 - This spreadsheet is designed to be both very user friendly and fast. It has an excellent built in help system.
U204 - KEYBOARD TRAINER V1.1 - Best public domain typing tutor available at present.
U205 - M-CAD - Computer aided design program.
U206 - NO ERRORS - Hides the hard errors on disks making all your corrupt disks usable once again.
U207 - TEXT ENGINE V4.0 - The best public domain word processor. *STOP PRESS* - New update V4.1 (See main feature below AGA section)

UTILITIES

U208 - 203 UTILITIES - The most utilities ever available on a single disk (not that many).
U209 - UNDELETE - This utility allows you to get back stuff that was accidently deleted from disk.
U210 - JOYSTICK TESTER - A brilliant joystick testing program.
U211 - RED SECTOR DEMO MAKER - A 2 meg version of the most popular utility ever!!! Create stunning demos/megademos/intros. The special thing is that it has been modified to work with the A500+ and even better the A1200.
U212 - AIBB V5 - A good diagnostic program.
U213 - SYS INFO V3.11 - A disk that will let you know the technical status of your machine.
U214 - ENGINEERS KIT - A diagnostic disk, specially suited for engineers etc.
U215 - DISK REPAIRERS - Will allow you to try and make all your unusable disks work again.
U216 - AMIGA DIAGNOSTICS - Solve thousands of amiga problems with this diagnostics disk.
U217 - LAST WILL AND TESTAMENT - Write your own will.
U218 - MUSIC BASE UTILITY - Store your record/video collection.
U219 - ERROR INFO - Gives you a list of all amiga error codes and their meanings.
U220 - PC TASK V2.02 - IBM PC emulater it allows you to run the majority of PC software with no additional hardware. Now supports VGA, EGA, CGA and MDA. (DV)
U222 - REPAIR-IT 3 - Contains a selection of disk and hard drive repairing utilities. Excellent for saving that vital file.
U223 - CROSS V5.1 - A program that creates crossword puzzles for you.
U224 - SPECTRUM EMULATER - This is the best and latest version of the most popular emulater for the amiga. There are 68020/030 versions for new AGA amigas.
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U227 - MING SHU CHINESE ASTROLOGY - Will create horoscopes in seconds. The complete aid.
U228 - COLOURED ICONS - Transfer your disks into colourful, well presented works of art with this database.
U229 - KIDS PAINT - An art package simplified for the younger amiga owners.
U230 - STAR VIEW - This program is designed to show graphically the positions of the stars and planets from any part of the earth.
U231 - AQUARIUM - Turns your screen into an eye catching fish tank.
U232 - OCTAMED V4B - Latest version of the famous music package.
U233 - NUMPAD FOR A600 - A program that makes the A600 think its got a numeric keypad.
U234 - ADDRESS PRINT V3.1 - Very useful if you make regular postal correspondence.
U235 - IFF BOOT - Displays a picture whilst your hard disk boots up.
U236 - BETTER BENCH - New workbench replacement.
U237 - PAY ADVICE ANALYSER - A very useful program for keeping track of pay, tax and national insurance.
U238 - CANNON PRINT STUDIO - Got a Cannon printer? This disk is essential for brilliant results.
U239 - FANCY PRINTING DISK - Contains Banner, Graph Paper V1.2 and Disk Print V3.5
U240 - BBASEIII - An easy to use versatile, yet fully featured database. Greatly enhanced successor to bBaseII.
U241 - ADM V1.01 - Flexable address database with loads of great features.
U242 - LITTLE TRAVELLER V1.1 - This utility shows a world map and allows you to select any country for travel information. It then zooms in giving a close-up map with more information.
U243 - BANNER MAKER - Create spectacular printed banners.

AGA UTILITIES - If you have got an AGA Amiga then look in our AGA section for latest utilities, demos and games.

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E001 - TOTAL CONCEPTS DINOSAURS - A book on disk appropriate for sensational Jurassic Park movie. Get it!!!
E002 - SCIENCE - Excellent learning aid to the difficult subject. (4 disks)
E003 - FRACTIONS AND SILHOUETTES - Good maths utility.
E004 - WORLD WAR 2 - Good history aid.
E006 - WORLD GEOGRAPHY - Very useful utility.
E007 - KIDS DISK 1 - Excellent reading utility.
E008 - LEARN AND PLAY 1 - For younger amiga users, very popular.
E009 - LEARN AND PLAY 2 - See above, usually ordered as a 2 disk set.
E010 - GCSE MATHS - Good, written by a teacher of the subject.
E011 - LANGUAGE TUTOR - French, Spanish, German and Italian.
E012 - AMIGAWORLD - This piece of educational software contains details on every country.

DEMOS

D004 - ARSEWIPE - Hilarious toilet role commercial.
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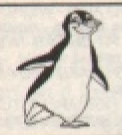
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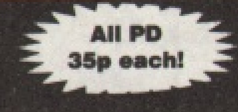
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BACKCHAT

Got something you want to get off your chest? Then this is the place to do it in because these are the liveliest letters pages around. This month's letters are answered by none other than 'our man covered in paper cuts' John Mather.

QUESTIONS, QUESTIONS...

The release of the CD32 throws up a number of interesting questions and problems.

The first area of concern affects your magazine because your readers will be split into two factions: those who work off humble floppies and those who use CDs. What are you going to do about cover disks? If you alienate one faction you may well find that it drifts away. I consider that the best time to switch to cover CDs would be your January issue (you know, the new year, fresh start and all that crap). The reasoning behind this is that Christmas is likely to be the time the new machine takes off and there will, no doubt, be a massive number of new users looking for a magazine to read. Also, as the A1200 upgrade is due to be launched at around this time, existing readers will soon be upgrading their machines.

The second area of concern affects Commodore. Although, their new baby is amazing and many people are already drooling over it, Commodore must decide how they are going to promote it. I feel it would be wise to sell the CD32 not as a console or as a potential computer, but as a family multi-media player i.e. highlight the fact that it is not just for the younger members. To do this, Commodore should emphasise that it is also an ordinary CD player. At £300, it is not much more expensive than commercial CD players and therefore there could be a big market here. The machine also has FMV capabilities, so you could soon be watching your favourite movies on CD or, at the very least, your favourite pop videos.

Another important point to note is the cost of software. Console games are ludicrously expensive, so if publishers can keep AmigaCD costs below £30 they'll stand a very good chance of success. Commodore must exploit the fact that Amiga software is substantially cheaper and of a much higher quality.

What we have here is a machine which can kick the opposition where it hurts and has the potential to do so for at least another two years.
Simon Markey, Co. Down.

I don't think we'll be issuing a CD disk in the near future, certainly not with our January '94 issue. It'll probably be a good 12 months before the market's matured enough for that. But then, watch out, as we'll be able to include all sorts of stuff, ranging from pop videos, movie previews, game demos, and who knows what else. Does anyone have any ideas about what they'd like to see? Let us know please, because next month's letters column is a special CD32 forum.

SACK NICK

I have a major complaint about one of your writers, Nick Veitch. He is trying his utmost to drive Amiga owners away from their favourite machine, but in a very subtle and insidious manner indeed.

Firstly, in his Workbench tutorial (June '93 issue), a screen shot clearly shows Nick's Workbench screen displaying the 'Intel Inside' logo. It's well known that Intel manufacture a range of processors for PCs, not Amigas, so why did he have this on his screen? Secondly, and this is the clincher, on page 111 of the same issue, Nick can actually be seen wearing a Mega CD T-shirt. This was obviously a 'clever' subliminal message from Nick, intended to subvert our thoughts. Fire the man immediately.
Nathan White, Walsall.

Firstly, the featured logo was actually an 'Intel Outside' badge. Bit of a joke, really. And as for Nick wearing a Mega CD t-shirt – even he isn't that sad! It was, in fact, an incredibly trendy and highly desirable CDTV t-shirt! As for sacking him, we wish we could, but the stubbly-faced one has since departed these hallowed pages for pastures new. He left the t-shirt, though – funny that.

HOW OLD'S DAN? PART 310

I am writing in answer to your question about the age of Dan Slingsby and from the photograph in your magazine I'd guess maybe 32. I have heard stories of pensioners offering him their seat on the bus. Anyway, I can pass on a method of telling a person's age by a devious use of basic mathematics, so here goes...

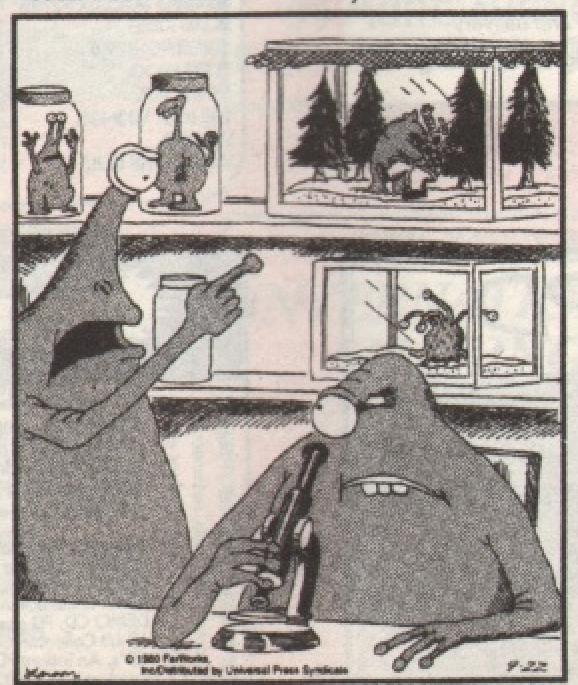
Firstly, tell the person (or victim if you prefer) that you can guess, without looking of course, how many keys are on their keyring. Get them to write down the number on a piece of paper and to keep it well hidden from your view. Tell them to multiply the number by five and then to multiply the result by 20. Having gotten this number, tell them to add 1993 (or whatever the present year is when you do the trick) but call the year out as written (one thousand nine hundred and ninety-three) so that they won't guess what you're up to. When they have their total, tell them to subtract the year they were born and the final figure they're left with is the number of keys they have and the last two figures are how old they'll be that year.

e.g. 6 keys x 5 = 30
30 x 20 = 600
600 +1993 = 2593
2593 - 1965 = 628 (6 keys, 28 this year)

I'd like to point out that this method was not devised by using a computer of any sort, merely by having access to large amounts of Guinness.
Peter Butler, Dublin.

When we tried this one out on Dan, he got all in a tiz and claimed he'd run out of fingers to count on. As we didn't want him to take off his mouldy old DMs so he could use his toes as well, we quietly abandoned the idea. Next month, all will be revealed, however, as we've 'acquired' Dan's birth certificate from his mum. The secret will finally be made public...

THE FAR SIDE By GARY LARSON



"Zorak, you idiot! You've mixed incompatible species in the earth terrarium!"

WHICH AMIGA?

I am in a dilemma about which machine I should buy. I realise that the future lies with 32-bit machines, so I've already ruled out the A600. This leaves the current AGA machines: the A1200, A4000, and now, the CD32. I want a machine that I can use for art and music packages, do a spot of programming with and play games on. This rules out the CD32 or at least until the keyboard and floppy drive add-ons arrive, so with my current budget I'm probably looking at an A1200 with a hard drive.

However, I've now heard rumours of an A1400 which is to be released in the near future, and of a whole new generation of Amigas using RISC-based chips that are under development. Should I buy an A1200 or wait for the rumoured A1400 or forget about the current range and hold out for a brand new RISC-based machine? Or should I just throw in the towel and buy a PC instead?

Technology moves along at an incredible pace, maybe it moves too fast, so where do you draw the line and say, right, I will buy this particular machine?! You have to take a hell of a gamble with your money when you buy a machine nowadays, it's not just one firm against another, but also against itself. I know that computer firms have to try and stay one step ahead of their competitors, but maybe they should help the public by providing a service, instead of the get-rich-quick-and-let's-not-give-a-damn-about-the-consumers attitude that seems to prevail at times.

So please give me an answer to which I should buy, or if you don't want to answer that, which machine would *you* buy?!
Garry Abel, Nr. Grimsby.

THE FAR SIDE By GARY LARSON



"Hey, c'mon now! ... You two were MADE for each other!"

It's certainly a difficult decision. I know a lot of people who were stung when they bought the A600, just months before the launch of the A1200. No-one wants to spend £300-400 on a home computer only to find it superseded almost straight away. To an extent, that's the risk you'll have to take, though, as we can't guarantee when new models will appear. Yes, there are rumours about an A1400, and RISC-based machines will definitely be with us in the next couple of years, but you've got to ask yourself what you want your Amiga for. If it's just for playing games on, word processing or similar pastimes, then you really don't need an expensive new model and you're best bet is to go for a secondhand Amiga at a giveaway price. Obviously, if you're interested in 3D graphics, sampling, professional video or other more memory-intensive pursuits, then go for one of the boxed Amigas with better expansion capabilities. It's difficult to access your needs from what you've told us, but don't worry, as next month we'll be taking you through the minefield of buying yourself a new Amiga, plus taking a look at the different set-ups that Amiga enthusiasts use.

CD32 ADS

I hope Commodore have a decent advertising campaign lined up to promote the CD32. Their previous efforts haven't been particularly marvellous, have they?! Someone said in CU AMIGA recently that the Amiga succeeded *despite* Commodore's advertising, not because of it, and I think that's true. An advert can be an hour long and give a list of technical specifications as long as your arm, but it won't mean a thing to your average man/woman on the street.

If Commodore want an advert that'll make the CD32 sell, they shouldn't just say what the machine is capable of, they should show it doing it! They should pick the best CD32 games currently available [*At the time of writing, that's precisely four - Diggers and Oscar which come with the machine, James Pond 2* and *Pinball Fantasies. Hardly state-of-the-art, I'm afraid! - Ed*] and show them going through their paces. They should also make it clear that the machine can play standard music CDs – a big selling point, as owners will be able to play their games and CDs off the same machine. If possible, the CD32 should also be shown playing a snippet from a blockbuster movie to emphasise that the CD32 is MPEG compatible and can be turned into a home cinema. And this business about not extolling its expandability into a real home computer is a bit silly – it's another selling point and one that could convince a lot of parents to choose the machine instead of a Nintendo/Sega games-only console. Point out that it's not just another brain-cell-destroying, mind-numbing, IQ-sapping Japanese games console!

I'll probably end up buying a CD32. I just hope I don't end up owning a white elephant like the legions of CDTV-owners. Come on Commodore, get your act together and make a decent ad.
Clifford Hayward, Weymouth.

Commodore recently invited us to their HQ to unveil the Christmas ad campaign and, having seen the storyboard for the TV ad, I do hold out some hope for a successful conclusion to this year's sales drive. In terms of printed ads they'll be very aggressive with much of the copy taking a direct dig at Sega. To do that, though, they'll need to be able to back up their claims!

As for promoting the console as a computer you'll have to wait till the post-Christmas period. Until then the public face of the CD32 is firmly games-led. Personally, I think that they've got it right on that score 'cos no matter how much you know about the machine there are thousands of people out there that know considerably less. To advertise the CD32 as both a computer and a console will only confuse those people new to the Amiga. Commodore need to expand the Amiga user base and not just sell the CD32 to current Amiga owners. I firmly believe that they'll do that with this campaign.

LETTER OF THE MONTH

GETTING 'ARD

Three years ago I bought my first Amiga. It was a good machine apart from one thing: disk swopping. I hate disk swopping, so I bought an external drive and found, to my disappointment, that not one single game I had bought recognised an external disk drive. I considered buying a hard drive, but they were too expensive at the time and games were rarely installable in any case.

About eighteen months ago I started using a PC at work, and I found that games came on four or five high-density disks, but that they were all installable. I decided to save up for a PC, knowing only too well that there were hardly any Amiga games that were hard disk installable. I managed to buy a PC exactly one year ago and have been generally very pleased with it, and have a hard drive that's bulging at the seams with games.

The point I'm trying to make is this: I believe the Amiga is a better games machine than a PC. Graphically, they are now on a par, but technically the Amiga is ahead, especially with the introduction of the A1200. It is a great machine, but companies are still refusing to make their games hard disk installable. There are supposedly 30,000 A1200 owners who have purchased hard-drives, and I bet a lot of them are cheesed off that there are few installable games on the market.

I bought an A1200 with a hard drive in February. The reason I bought one is because I program using AMOS Professional, which is hard disk installable. I have two games on my hard-drive: *Historyline* and *Darkseed*. Both are impractical to play from floppy drives because of disk swopping, but with a hard drive they're so much less hassle.

I have read in your sister magazine, *The One*, that Virgin's new game, *Beneath the Steel Sky*, will only be playable from floppies because there are not enough hard-drive owners to make it worthwhile being installable. Also, the game's designers are cutting out some of the animations. I quote from an interview with the game's designers: 'If all Amiga owners had a hard-drive then they would get the works but, sadly, they won't. It's a shame we can't compromise for the hard drive owners.'

Well, the thing is, they should compromise. What's the point in us buying this game when the game designer has stated that we'll be getting a cut-down version? People with hard drives will be buying a game which is not installable, thus defeating the purpose of owning a hard drive in the first place.

I am fortunate in that I have a PC and an Amiga. However, there is a PC version of AMOS being developed and when it appears I'll be saying 'good-bye' to the Amiga unless software companies radically change their attitudes.

Software houses use piracy as the be-all and end-all for almost any argument when it comes to the Amiga. They harp on about copy-protection on disks as their only solution to software piracy. Why don't they wake up? Go to any school playground and you'll see that disk protection doesn't matter. There is a network of suppliers who can get any pirated game. If I wanted a game, I could go to a nearby market and buy it along with a photocopied manual for about three pounds. I don't, because I can afford to buy originals, but it won't stop a kid from doing so. One buys the pirate version and then all of his other friends get a copy for free.

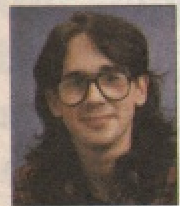
For me, disk protection has never been a bug-bear. The type of protection I hate is manual related. Microprose, for example, have the right idea. They produce a huge manual and potential pirates have to copy every page if they want to be able to play the game. It's a pain to open the manual every time I want to play a game, but at least it's a reasonable way to beat piracy. I don't suppose too many kids have the ability to copy two hundred pages of text. This, of course, is not practical in a shoot 'em up when the only instructions needed are how to press the joystick button. One of the best forms of protection I have encountered as regards copying from the hard drive is with the PC version of *The Secret of Monkey Island*. The game is installed to hard drive as only one file which is 9Mb long. For most people copying 9Mb to one disk is an impossibility.

What this letter comes down to, is a plea for sense from software companies. Unless a game is hard-drive installable, I will refuse to buy games for the Amiga. I just wonder how many more Amiga owners will also move onto the PC before software houses change their views.
Richard Johnston, Banffshire.

I think your letter says it all really.

Write to Backchat at: CU AMIGA, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.

LOOKING FORWARD



While everyone else sits around wondering what games are going to be like in the future, Tony Dillon ponders the possibility of a future without games.

At the recent ECTS, I sat in on a very interesting conference with US developer Chris Crawford of Chris Crawford games, where he debated the possibility of a future were computer games really become kid's stuff and will be consigned to only a very small part of computer entertainment.

His line of thinking went something like this: Comics are fun and intense, but are an incredibly small part of literature. Sweets are fun and intense, but are an incredibly small part of the whole food culture. Computer games as we know them are fun and intense, but logically must be an incredibly small part of computer entertainment as a whole.

He went on with this comparison for quite a while, and claimed that computers will move away from fun and into something more subtle and satisfying.

But what exactly is this more subtle and satisfying larger market we're supposed to be expanding into? It's the world of computer entertainment, of course! We hear all the time of the latest hardware advances, and of newer, better and faster programming techniques. Who would ever have thought that something like *Legends Of Valour* or *Frontier* would have been possible a couple of years ago?

What most people seem to be skipping around at the moment is actual game design itself. This is crucial because it's the changes in design that are going to make the shift from peanuts to sprouts, if you catch my drift.

MORE OF THE SAME

At the moment, game design is stuck in a loop. We keep seeing the same games coming out over and over again, as software houses and development teams continually repeat and improve the 'tried and tested', creating guaranteed sellers but never actually moving the game market forward. Take *Lure Of The Temptress*, it is rated as one of the most original graphic adventures around, yet is really nothing more than *Maniac Mansion* with a better game design.

The desire to impress visually and sonically, matched with the drive to provide entertainment through fun is what is causing game designers to double back on to themselves time and time again.

Interestingly enough, the two games I've mentioned already are perfect examples of how game design is changing.

You probably won't have played *Frontier* yet, so look at *Legends Of Valour*. What sets it apart from most graphic adventures, other than the graphics? Give up? The freedom. Yes, there are a certain number of set quests to be done, but because you have complete and total freedom to do anything you like, even starting a quest brings a certain sense of fulfilment.

In turn, completing a quest brings even greater joy, but why exactly is that? Why does the simple task of finding a cup and bringing it back to a certain location make you feel like you've really accomplished something?

The answer lies in the amount of effort you've had to expel to actually do the quest. You've had to search the huge city looking for the person who actually gives you your mission, and then you've had to locate the object with only minimal instruction, and then find the original location. You could have gone anywhere. There were a million wrong turnings to take, but you got the right one, and got the job done. In a standard adventure, you know that two screens across there's a lantern, and two screens down is a dark cave. That's not satisfying because that isn't life. That's just logic. In *Legends Of Valour* you have actually spent some time of your life running around Mittledorf, not moving a couple of pixels around on a screen. *Frontier* is more of the same, only you have a far larger and more varied locale to live in.

What about *Frontier*? How can you possibly have a game that doesn't have an ending? A game that doesn't have any predesigned tasks or objectives? Quite easily, and very successfully if our 97% mark is anything to go by.

Again, the secret lies in the freedom of the game. All space games offer you the chance to ride the galactic waves and live life as a space pirate, but *Frontier* is the only game that actually follows through.

There's not much fun to selecting a planet, and then travelling to it, but for some reason it's far more enjoyable than blasting the Laa'args from Quaa'arg.

If you still don't get it, try this for size. When you were running between buildings desperately searching for the lost treasure/High Priest/whatever in LOV, were you having fun? Be honest with yourself, did you really enjoy spending all those hours running round in circles? Probably not, unless you're the kind of person who derives pleasure from running through alleys for long periods of time!

But did you enjoy yourself? You bet you did, because you were working towards a goal in a far more involved way than usual. That's where the magic is, and as far as I can see that's where the future of game design lies.

Of course, they won't be 'fun' as you and I class 'fun'. and everyone knows that a computer program that isn't 'fun' obviously isn't a game. That's what I mean by a future without games.

ENTERTAINMENT: NOT FUN

There have been plenty of games that have surfaced that fit the bill of this new age of design, but many have failed or just been rejected by the masses.

I remember the *Max Headroom* license – a sprawling and engaging battle of wits through a horrifically maze-like towerblock. There was lots to be done, if you could hack it, but it was universally panned due to its inherent lack of fun.

Although it's quite possible that you could derive far more enjoyment and entertainment from a game like this over something like *Zool*, software companies are slow to pick up on this kind of product due to the risk factor.

It may be brilliant, but that doesn't mean it will sell. A shame really, when you consider that flight simulators have provided years of entertainment without being zany or zappy.

So why can't we have the same in other games. A combat game that works properly, for example.

If someone kicks you hard across the knees, then your kicks lose their strength, or you could lose your ability to walk!

To my mind, that gives you a far more rewarding challenge than *Streetfighter*. CU

The future of home entertainment? This is how you might be playing *Streetfighter 6*!



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AWARDS





98% A.U.I.
Alan Puzey
Jan. 1993

90% Amiga Format
Jason Holburn
Sept. 1993

98% Amiga Maniac
Dave Cryer
May. 1993

91% Camcorder User
Richard Benson
July. 1993

*****
Amiga Shopper
Gary Whiteley
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